

COLUMBIA LIBRARIES OFFSITE  
HEALTH SCIENCES RESTRICTED



HR00740306



SERIAL

v. 3

L

1909

**Columbia University**  
**in the City of New York**

**College of Physicians and Surgeons**



**Reference Library**








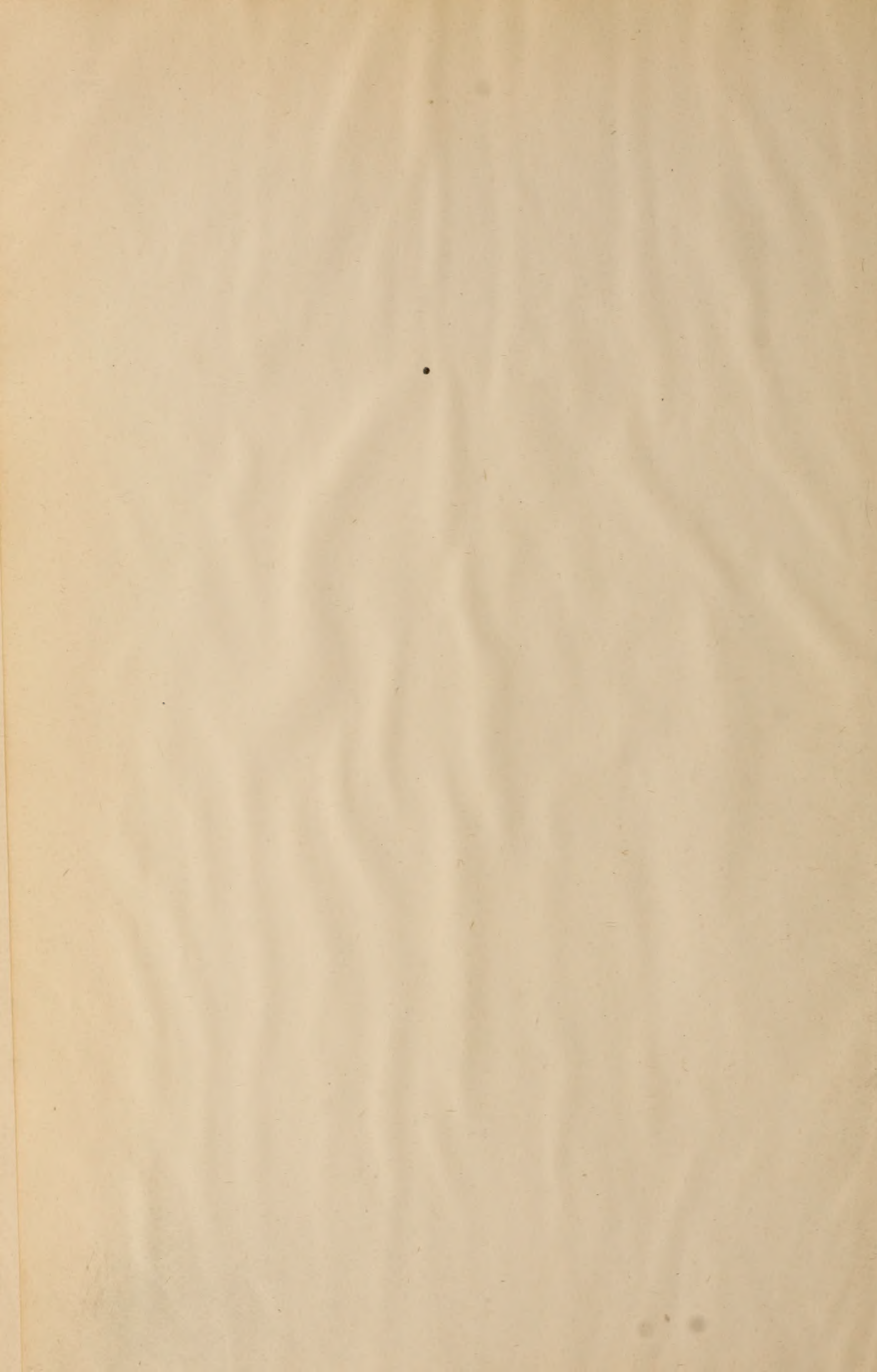






Digitized by the Internet Archive  
in 2014







# LONG ISLAND MEDICAL JOURNAL

EDITED BY

PAUL M. PILCHER, A.M., M.D.,  
OF BROOKLYN-NEW YORK

CONSULTING SURGEON TO THE EASTERN LONG ISLAND HOSPITAL, GREENPORT, L. I.;  
ATTENDING SURGEON TO THE GERMAN HOSPITAL; ASSOCIATE SURGEON  
TO THE WILLIAMSBURG HOSPITAL; ASSISTANT SURGEON  
TO ST. JOHN'S HOSPITAL, BROOKLYN; ATTENDING  
CYSTOSCOPIST TO THE JEWISH HOSPITAL.

ASSISTED BY

JAMES M. WINFIELD, M.D.

DERMATOLOGIST TO KINGS COUNTY, JEWISH, LONG ISLAND STATE, NASSAU AND  
ST. MARY'S (JAMAICA) HOSPITALS.



VOLUME III

JANUARY - DECEMBER, 1909

---

PUBLISHED MONTHLY BY THE  
ASSOCIATED PHYSICIANS OF LONG ISLAND



**UNDER THE SUPERVISION OF THE BOARD  
OF DIRECTORS**

F. T. DE LANO, Rockville Centre  
H. BEECKMAN DELATOUR, Brooklyn

T. R. FRENCH, Brooklyn  
JAMES C. HANCOCK, Brooklyn

CHARLES B. BACON, New York

---

**COMMITTEE ON PUBLICATION**

PAUL M. PILCHER, Brooklyn, Chairman

J. M. WINFIELD, Brooklyn

F. T. DE LANO, Rockville Centre

LOUIS N. LANEHART, Hempstead

WILLIAM H. ROSS, Brentwood

CHARLES B. BACON, New York

---

**BUSINESS MANAGER**

G. L. HARRINGTON, Room 203, Eagle Building, Brooklyn, N. Y.



# LONG ISLAND MEDICAL JOURNAL

VOL. III

JANUARY, 1909

No. 1

## REVIEW OF PROGRESS IN GYNECOLOGY FOR 1908

By HENRY C. KEENAN, M.D.

**R**ETROSPECTION, criticism of formerly accepted methods, and recasting of old views rather than any marked advance on new or original lines has been the trend of gynecology during the past year.

THE MEDICAL TREATMENT of numerous gynecological ailments by physio-therapeutics has now been practiced sufficiently long to allow some judgment to be passed as to what may be reasonably expected from their use.

The principal agents are dry heat, hyperemia, by means of suction, as advocated by Bier, and the use of weights both in the vagina and on the abdomen.

For the dry heat treatment the patient is placed in bed, a half cylinder put over the body, in the pelvic region, and the heat led into the cylinder by means of a Bier chimney. The temperature ranges from 200 deg. to 300 deg. F.; the session lasts about one-half hour and the treatments are given daily or on alternate days. The indications for its use are chronic inflammatory conditions, adhesions and, after operation, for pain. The contra-indications are tuberculosis, heart disease and pus. However, it may be used as a method of diagnosis in pus cases as in these the temperature always rises after the treatment. Out of 231 cases treated by Runge<sup>1</sup> the average number of sessions was ten. The results were good for the subjective symptoms. As to an objective cure the writer could not tell

in all cases, but the general impression was that it would cure large exudations relatively quickly.

Hyperemia by means of suction is employed chiefly for erosions of the cervix metritis and endo-metritis. A glass speculum closed at its outer end, except for a small opening, is used. As soon as suction is applied the cervix is seen to come into the speculum and change color, mucus and some blood come from the os and any erosions bleed rather freely. The treatment lasts about one-half hour in five-minute sessions with, about, one minute interval. Results of treatment in the above mentioned conditions is a cure in nearly every instance, but according to Runge no quicker or better than with the usual methods.

Plass<sup>2</sup> reports 21 cases of purulent bartholinitis treated by suction. In all the gonococcus was found in some part of the genital tract. The suction was applied directly over the area of the gland with the excretory duct as a center. The suction was employed for 15 minutes twice daily and all the cases without exception were cured in from 8 to 15 days. In the cases of abscess formation, a small puncture was made into the abscess and the pus sucked out. The advantages of the treatment are the rapidity and sureness of cure and the absence of scar.

Pincus<sup>3</sup> method of applying the weight treatment is as follows: The foot of the bed is raised; a colpeurynter is inserted into the vagina and a quantity of mercury allowed to



run into it according to the comfort of the patient. Bags of varying weight are then placed upon the abdomen; the weighting is kept up for one hour every two days. The treatment causes a primary anemia of the parts during the session followed by hyperemia. The method is indicated in all processes in the cul-de-sac of Douglas including fixed retroversion and flexion. In these latter conditions the treatment is painless and shows an advance on the practice of massage or tearing forcibly the adhesions. The average length of treatment is 6 to 8 weeks. The results vary in different cases. Sometimes the uterus is pushed up and holds itself in good position and without pain. In these cases no further treatment is necessary. Or it becomes mobile and then a pessary or some form of extra-peritoneal shortening of the round ligaments is indicated.

**HOMOTRANSPLANTATION OF THE OVARY.**—The possibility of ovaries functioning in other sites rather than the normal as described by Morris in 1895 is one of considerable importance to the gynecologist from a conservative standpoint. Frequently after a double oörophorectomy it may be found that a small portion of ovarian tissue is not hopelessly diseased. This small portion may be implanted in the stump of the tube or between the folds of the broad ligament with every prospect of functioning and thus preventing that train of unpleasant sequellæ which so often follows a double castration. This fact should lead us in every case to scrutinize the ablated ovaries for healthy tissue and not as so frequently happens toss them carelessly into the specimen dish.

Since Dudley's paper on conservative gynecology the habit of removing organs for trivial cause has, to a large extent, ceased and very often small portions of ovary are saved in situ; but no general practice has been established of returning a portion of an ablated ovum to the abdominal cavity if on examination, it is found to be healthy.

Martin<sup>4</sup> reports four cases of homotransplantation and in the three cases which reported later there was no interruption of menstruation and no atrophy of the genital organs. His conclusions are: 1st, That the operation of homotransplantation is no more dangerous than any other small plastic work upon the appendages; 2d, Menstruation will continue in women after transplantation and conception has followed; 3d, That ovaries transplanted to other localities than the normal will maintain their vitality and prevent the ordinary sequellæ of castration. Martin reviews the literature to the present time.

Frank in three cases of homotransplantation put the ovaries into the stumps of the oviducts. Menstruation in all reappeared normally and one patient became pregnant but aborted. Monprofit performed the operation seven times and says that it is indicated to prevent the results of castration. Knauer has shown that new vessels are formed in the ovaries as early as four or five days after the operation.

**HETERO-TRANSPLANTATION OR TRANSPLANTING OVARIES** from different individuals will for the present remain among the medical curiosities. Morris reported in 1906 such a case followed by pregnancy four years after. Guthrie's<sup>5</sup> experiments on chickens show that in animals pregnancy will follow hetero-transplantation and that the characteristics of both the original owner and the foster-mother are imprinted on the offspring. In two cases of hetero-transplantation in women reported by Martin which were followed for a considerable period there was evidence of some ovarian action.

However, in those cases of reported births after hetero-transplantation it must not be forgotten that Biegel<sup>6</sup> claims to have found supernumerary ovaries 23 times in 500 bodies and that Kossman Parsons Cutter and others mention births following double oöphorectomy.

That conservative work on the ovaries pays is well illustrated in



the research made by Peterson.<sup>7</sup> He found in an examination of 460 cases of hysterectomy with removal of the appendages 174 or 37.8 per cent. with no bad symptoms, while in 209 hysterectomies in which some ovarian tissue was retained there were no unpleasant sequellæ in 58.5 per cent. This gives a clear gain of 20 per cent. as far as troublesome symptoms are concerned to the latter operation.

UTERINE ENDOSCOPY.—DAVID (*Annales de Gyn.*, Sept., 1908) describes his uterine endoscope, method of using and the indications therefor. The instrument consists of an external tube and obturator exactly resembling the Kelly cystoscope, an interior tube closed at its internal extremity with glass and the lighting apparatus. The endoscopes are of various sizes according to use, the smaller sizes being employed in the normal uterus and the larger after abortion and labor. The light is obtained from a small urethroscopic lamp on a long wire, attached to a right-angled handle which adjusts itself to the handle of the hysteroscope. A convex glass with a focus the length of the tube is placed in front of the tube and inspection is made through this glass.

The intrauterine exploration must not be undertaken until a thorough bimanual examination of the patient has been made. In ordinary cases dilatation of the cervix is necessary. This may require an anesthetic but as the examination itself is painless no subsequent anesthetic is required. For practicing hysteroscopy the uterus is first fixed or drawn slightly downwards with a volseum forceps and the tube with the obturator is gently introduced till it touches the fundus. The obturator is now withdrawn and the cavity dried with a small swab of cotton. Then the internal tube is inserted, following this the light, and lastly the lens is put in position. By moving the tube up and down, and to the right or left, the entire fundus is brought successively into view. By withdrawing the instrument the anterior

and posterior walls tend to come together and appear in the field of the endoscope. The use of the instrument is contraindicated in pregnancy, acute inflammatory diseases of the adnexa and irreducible retroversion of the uterus. The principal indication is for hemorrhage particularly where there is no palpable disease of the uterus. Very often, the writer says, in these cases the diagnosis lies between simple metritis, mucous polyp, small submucous fibroid and early epithelioma. In such conditions positive information can often be obtained by this method which is denied to any other form of examination. Several times David has been able to diagnose very early epithelioma of the corpus uteri. The macroscopic appearance of this condition very much resembles some forms of chronic endometritis. If the diagnosis is at all uncertain the inner tube is withdrawn and a small piece taken away by means of a Kollmann forceps. Therapeutically the hysteroscope may be used in the treatment of local lesions in the uterus. Curettage may be done under direct vision by the simultaneous introduction of a curette and the endoscope. Small tumors, polypi and foreign bodies can be removed readily and especially portions of suspicious growths for microscopic examination.

OPERATION FOR RETROVERSION.—That the perfect method for maintaining the uterus in proper position has not yet been devised is evidenced by the numerous modifications of operations directed toward the cure of this condition, with the intent of overcoming one or other of obvious shortcomings of these surgical procedures. Any operation done for retroversion before the climacteric must take into account the possible effect on pregnancy and labor and the likelihood of the uterus returning to its proper position after involution, that is it must stand the double test of pregnancy. All operations tending to fix or suspend any portion of the fundus of the



uterus suffer from this disadvantage, that although the false ligaments may stretch they will not involute. Ventro-suspension has been very popular in the past and is likely to continue so, on account of the ease of its performance. However, adverse criticism is not wanting, particularly in regard to the remote results during the age of childbearing. Thus Cragin<sup>8</sup> believes that an intended ventro-suspension may become a ventro-fixation either by the area of adhesion being broader than expected and the resulting band too firm to allow mobility, or infection of the wound causing the fundus to unite firmly to the abdominal wall or a ventro-suspension which allows normal delivery in the first pregnancy may become a ventro-fixation and cause marked dystocia in the second pregnancy. He reports four cases of Cesarean section following operations in which it was not known whether a suspension or a fixation was intended: and a fifth case where, after a careful suspension, pregnancy occurred with a normal delivery but, in the next pregnancy the uterus was found fixed and Cesarean section was necessary. He concludes that if a ventro-suspension which in 1903 allowed an easy labor can in 1908 become a ventro-fixation requiring Cesarean section that it seems to be an unsafe operation during the childbearing period. Humpstone<sup>9</sup> likewise reports six cases, from the practices of various men, of serious dystocia following suspension or fixation.

Polak<sup>10</sup> on the other hand finds ventro-suspension entirely satisfactory. He reports 52 pregnancies following the operation. Of these two had abortions for reasons unconnected with the operation and fifty had practically normal labors. In only two was there a recurrence of the retroversion after labor.

Delbet<sup>11</sup> under the title of *Hysteropexie—Isthmique* describes an operation which he believes possesses all of the advantages and none of the faults of the Kelly

suspension. After opening the abdomen the uterus is drawn up as high as possible and two sutures are passed through the anterior wall of the uterus at about the level of the internal os. They are brought through the peritoneum at the lower angle of the wound as in the Kelly operation and tied. Delbet followed 23 cases performed after this manner and found 11 pregnancies, six occurring in women who had been previously sterile. There were two abortions and nine normal labors and the uterus returned to proper position after the puerperium.

For simple retroversion, either fixed or mobile, occurring during the childbearing period most operators are agreed that some form of shortening the round ligaments is the best mode of procedure.

Barrett<sup>12</sup> describes an operation which he claims to have originated but which is identical with the operation published by Simpson in 1902. He calls it the intramural transplantation of the round ligaments. It seems to be the best method so far devised for using these structures for holding the uterus in anteposition. The operation is indicated in any case of retroversion where it is necessary to open the abdomen, either to release adhesions or to treat the adnexa. After performing the necessary preliminaries on the adnexa a ligature on a needle is passed through the round ligament at a point two-thirds the distance between the implantation of the round ligament into the uterus and its passage through the internal ring. The needle is then passed through the cornu of the uterus and the suture tied. This draws the uterus forward and leaves a loose loop of approximately two-thirds of the ligament. Drawing this loop upwards a silk thread is passed around it at the middle point and caught with forceps outside the abdomen. The same procedure is now performed on the other side. The finger is now passed into the abdominal cavity and placed against the internal ring. This serves to



guide a ligature carrier or aneurism needle which is passed over the rectus muscle but beneath the aponeurosis down to the internal ring. After going through the ring the carrier runs in the fold of peritoneum covering the round ligament till it arrives at a spot about one-half inch distant from where the ligament has been previously tied to the uterus. It then pierces the peritoneum and seizes the thread around the redundant fold of the ligament and pulls this thread, with the ligament following, back through the path it has just traversed. This brings the ligament above the rectus where a couple of sutures fix it to the overlying fascia. The advantages of the operation are the use of the strongest portion of the ligament which is at the uterine extremity, while all operations which shorten the ligaments by folding them on themselves or attaching them to the anterior or posterior surface of the uterus, as in the Dudley or Mann operations, use only the weaker external portions of these structures. No false bands are created as in the Kelly or Gilliam operation. The natural supports of the uterus are used which should develop during pregnancy and involute after labor. Barrett reports 2 cases of pregnancy following the operation. In both the deliveries were normal and the uterus returned to the proper position afterward.

**COMPLETE PROLAPSE.**—In that most annoying condition, so difficult of cure, complete prolapse of the uterus, particularly in women beyond the menopause, the Schauta-Wertheim-Watkins operation is beginning to attract attention in this country although it has been in fairly general use in Germany for some years. The question of priority for the operation is yet unsettled. According to the German text-books the operation was first devised by Freund who retroverted the uterus through an opening in the cul-de-sac and stitched it to a large hole in the bladder for the cure of vesico-vaginal fistula. On a later examination a prolapse which had

been present was found cured. Freund some time later performed the operation for the cure of prolapse alone. The uterus in this case was stitched to both vaginal walls. Fritsch modified the operation by anteverting the uterus through the anterior fornix after separating the bladder from the uterus and vagina. The Schauta-Wertheim<sup>13</sup> operation was developed out of the Fritsch method. Watkins,<sup>14</sup> of Chicago, claims to have done this operation as early as 1899.

The operation consists essentially in making an incision in the anterior vaginal wall extending from just behind the urethra to the cervix and dissecting the bladder away on either side. Then a cross incision is made in the anterior fornix and, after separating the bladder, the body of the uterus is pulled through the opening. The opening is then closed behind the uterus by stitching the peritoneum to the posterior wall about the level of the internal os. The uterus thus anteverted into the vagina is placed beneath the bladder, the fundus reaching nearly to the urethra and the vaginal mucous membrane stitched beneath it. The body of the uterus is thus placed in extreme anteversion between the base of the bladder and the anterior vaginal wall. If this operation is done during the child-bearing period the patient is rendered sterile by putting two ligatures on each tube and cutting between them. The remote results of the operation are satisfactory. Of 18 cases operated in 1902 by Doderlein<sup>15</sup> and seen in 1906 there was complete cure in all, both subjectively and objectively. Of 23 cases operated in 1903 and 1904 and examined from two to three years afterward, there were 13 complete cures, 8 cases in which there was some sinking or projection of the post-vaginal wall in a slight degree and one recurrence of total prolapse, the uterus turning on its axis and with the bladder protruding from the vulva. Kroenig<sup>15</sup> has observed 5 slight recurrences out of 15 cases. Wertheim in 16 cases had 15 absolute cures and one total prolapse. Schauta out of forty cases had also one of



complete recurrence. He believes that a proper perineal operation is very necessary to secure satisfactory remote results. The Schauta-Wertheim-Watkins operation has been modified, in cases where there is hypertrophy of the uterus, by Pfannenstiel<sup>16</sup>. The arguments therefor are briefly, that in that form of genital prolapse which is caused by much child-bearing we frequently find a high degree of metritis, giving rise to numerous complaints of pressure feelings and menstrual disturbances, which are ordinarily believed by the patient to be due to the prolapse. Even among gynecologists there is no agreement on the etiological connection between metro-endometritis and prolapse. Many authors believe the whole trouble is due to the edematous condition so often present and deny a genuine hypertrophy. Others see in the primary retroversion not only the cause of the prolapse, but also of a congestion which produces a chronic hyperplastic condition of the uterus and which corresponds to the picture of chronic endometritis and metritis (Kustner). According to these authors correction of the uterine position causes a retrogression of the enlarged organ. At most in high degrees of endometritis a curetting is necessary. There is, however, a third school which holds a reverse opinion. They believe that the metritis is primary and causes through increased weight retroversion and prolapse of the organ. The etiological connection between the prolapse and the metritis is extremely important from the standpoint of treatment. Pfannenstiel believes that metritis is primary in those cases in which there is an enlarged uterus and says that they occur rather frequently, especially around the menopause. He holds that it is necessary to treat the metro-endometritis as well as the positional faults of the uterus. For this purpose he proposes an addition to the interpositio-uteri operation. He first amputates the cervix if necessary; then, after bringing the uterus into the vagina and fixing it with forceps, a median wedge is removed by making

two symmetrical incisions running from the fundus to the internal os each cutting both the anterior and posterior walls of the uterus; this usually removes all the mucous-membrane; if it does not remove all, the remainder is dissected out. There is considerable bleeding from a number of small vessels, but as a rule no large vessels are cut. The walls are brought together with through and through sutures which stop the bleeding and then the uterus, now diminished to normal size, is placed between the bladder and vagina. Thirty cases are reported all with good results. The author believes that in this method there is found a successful means of treating those cases of combined prolapse and chronic metritis. Duhrssen claims priority for the wedge-shaped resection of the body of the uterus on account of chronic metritis. He believes, however, that a resection of a part of the anterior wall is sufficient to cause retrogression of these large uteri to normal size. Vignard<sup>17</sup> in cases of complete prolapse follows the operation of Müller and publishes results of 5 cases. The operation is done only in old women who have passed the menopause and have an atrophied uterus; and the prolapse must be complete. It consists in dissecting off the entire mucous membrane of the vagina and cervix with the exception of a small strip at the vulva. This is done with the uterus drawn completely out. Then by circular sutures the membrane is united and the uterus pushed up. The result is a cicatrix of the entire vagina which prevents return of the prolapse and the vagina is completely obliterated. No case of pus or cyst formation behind the scar has been observed. The results in all cases both as to health and recurrence are good. It is quickly performed, can be done without general anesthesia, is perfectly safe, and patients are up in four days. All important points in aged women.

ECTOPIC PREGNANCY.—No subject in gynecology has aroused as much interest and discussion among American surgeons during the past year



as the question of the time when to operate in interrupted ectopic pregnancy. The previously accepted dictum which is found unanimously even in the most recent text books that these cases must be operated on at once, in all possible conditions and circumstances, has been seriously called into question. I believe that no surgeon to-day will concur with the view expressed in Ashtons<sup>18</sup> Practice of Gynecology where he says that "As a rule the patient dies within a few hours after rupture unless operation is done." There is now practically a universal agreement among surgeons that about 95 per cent. are not accompanied by a dangerous hemorrhage at the time of rupture.

Frederick<sup>19</sup> in an analysis of 125 of his own cases says, "It therefore appears from my experience that only about 5 per cent. of ectopic pregnancies are accompanied by a dangerous hemorrhage at the time of rupture. In 27 grave cases seen by Robb,<sup>20</sup> Simpson<sup>21</sup> and Stellwagen<sup>22</sup> in which operation was delayed for a considerable period there were no deaths. The statistics collected by Schauta which are frequently quoted by the advocates of immediate operation show 123 cases of immediate operation with a mortality of 5.7 per cent., while 121 cases treated palliatively gave a mortality of 86.8 per cent. These statistics are now sixteen years old and should be thrown aside as obsolete. They were taken from the literature at a time when only the gravest cases were diagnosed and the slighter ruptures and tubal abortions, which would have materially altered the percentage, were entirely unrecognized. The knowledge of ectopic pregnancy has advanced considerably during the last few years as is evidenced by the greatly increased number of operations for 'this condition.' So I believe that to obtain an unbiased judgment on the comparative value of any method of treatment only the most recent statistics should be used.

Simpson<sup>23</sup> in an analysis of 576

cases of ectopic gestation taken indiscriminately from the literature of the past five years found that 115 were operated within 24 hours of rupture with 26 deaths, a mortality of 34.6 per cent., while of 461 cases not operated within 24 hours there were 31 deaths or 6.7 per cent. mortality. This considerable difference in percentages is not quite fair as the early operations were in patients who were critically ill. But between 76 grave cases with immediate laparotomy and 24 patients equally ill in which interference was delayed, there was a difference of 5 per cent. in favor of the deferred operation.

Hunter Robb was, I believe, the first to come out boldly for delay, in May, 1907. That many other surgeons had reached approximately the same conclusion was shown by the number of articles which almost immediately appeared concurring with more or less reservation in his views.

The unsettled state of opinion, at present ruling, on this question is well exemplified in the symposium held on the subject by the American Gynecological Society, May, 1908. The discussion shows that it is on account of the 5 per cent. of dangerous cases that opinion is divided. Vineberg<sup>24</sup> says that in the lesser degrees of hemorrhage we frequently have, on account of the irritation of the peritoneum, the same symptoms as in the more severe bleeding but that an acute observer can differentiate. Whether we operate immediately on these cases forming about 95 per cent. of all is a matter of indifference, in fact delay might be beneficial. However, in the cataclysmic cases, forming 5 per cent., immediate operation should be done, otherwise the patient will inevitably die. Out of 84 cases of immediate operation in all classes he had only one death. He believes that a great step backward would be taken if we treated these cases on the long expectant plan proposed by Robb, Stellwagen, and Simpson. W. H. Montgomery, Janvrin, Smith and Grandin are still in favor of



immediate laparotomy in all cases, the discussion shows a general tendency on the part of American gynecologists to differentiate their cases more closely. Few are inclined to go to the extreme proposed by Robb but many are willing to delay a short time to see if bleeding continues or if the shock will pass and while interfering early do not operate precipitately.

CANCER.—There is still considerable doubt in the minds of operators as to the proper operation for cancer of the uterus. From the first complete hysterectomy for this condition performed by Freund, but little actual advance was made till the radical operation proposed by Wertheim,<sup>25</sup> Ries,<sup>26</sup> and Clark<sup>27</sup> in which not only the uterus and adnexa were removed but also considerable of the parametrium, vagina and the glands of the pelvis. The radical operation in the beginning showed better remote results but the primary mortality was considerable. So that, while this is the best operation yet offered for the cure of uterine cancer, numerous surgeons have been working along the line of improved technic with a view of lessening the grave primary results. The most difficult part of the operation is the removal of the glands. A number of investigators have come to the conclusion their radical removal is either not necessary or not efficacious in the large proportion of cases. Thus Schauta<sup>28</sup> in an examination of 60 cases found the glands entirely free of carcinoma in 43 per cent. These of course did not require removal. In 44 per cent. glands were found involved in inoperable situations high up along the course of the aorta, leaving thus only 13 per cent. in which removal of the glands would have been indicated. On this account Clark<sup>29</sup> has modified his former radical operation and now does not remove the glands unless they are palpably enlarged. He says if glandular metastasis or widespread extension is not discovered the radical local extirpation offers the great-

est possibility of a cure. If the extension of the cancer is palpably evident in the iliac or sacral glands the operation should be limited to a simple hysterectomy or a high amputation with the cautery, eradicating as completely as possible the local site of the disease.

Wertheim<sup>30</sup> in a late report of his extensive radical operation still holds to his earlier technic, with some slight modifications, but not at the expense of radicalism. The technic has been developed along the course of more exact and easier hemostasis. When taking the parametrium away from the sides of the pelvis there is considerable venous hemorrhage. There was always great difficulty ligating these vessels and considerable time and blood was lost; by putting curved clamps on the parametrium before taking it away and then after the uterus is removed substituting ligatures this difficulty is overcome. McKenrodt is of the opinion that this operation is less radical but Wertheim holds that such is not the case. As a further improvement in the technic Wertheim after putting on the right-angled vaginal clamps pulls up the vagina and puts a ligature on each side and then cuts between the clamp and the ligature. This prevents very annoying bleeding from the paravaginal tissues. Clark accomplishes the same purpose in a better manner by putting two rectangular clamps on the vagina and cutting between them with the cautery.

Wertheim has performed his radical operation over 400 times. There are now 120 operations 5 years old. Of these 120 cases there were 27 primary deaths, 14 out of the first 30 cases, and 13 out of the other 90. In the last 158 cases the immediate mortality was 12, a percentage of 7.5 per cent. which is the best so far for the radical operation. Of the 93 cases which lived, out of the original 120, throwing out five cases which died from extrinsic causes, there remain 87. Fifty-seven of these are free from



recurrence. This, according to ordinary custom, gives 58.6 per cent. cures. Wertheim and Winter<sup>31</sup> both believe that in compiling cancer statistics those cases which are considered operable by ordinary hysterectomy should be separated from those in which the cancer has advanced beyond the cervix or body of the uterus and are ordinarily considered inoperable. If this is done, it is believed, a great gain will be shown in favor of the radical operation.

In order to show that the lessened mortality in his last 158 cases is not due to lessened radicalism Wertheim reports in this series 10 cases of ureter necrosis and four cases of necrosis of the bladder. Numerous operations have been devised to prevent ureter necrosis. Wertheim allows that they are good in easy cases, but in those further advanced where the growth has neared the ureter or bladder it can only be separated with a loss of tissue to these structures. Of the 10 ureteral fistulæ, seven healed spontaneously. Another was cured through extirpation of the kidney for disease of that organ. One case refused further treatment and one is still under observation. Of the vesico-vaginal cases all healed, two spontaneously and two by subsequent suture.

## LITERATURE

1. Runge. *Munch. Med. Wchnschr.*, 1908, iv., p. 22.

2. Plass. *Berlin Klin. Wchnschr.*, 1908, xlv., p. 783.
3. Pincus. See Runge.
4. Martin. *Surg. Gyn. Obstet. Chic.*, July, 1908.
5. Guthrie. *Quart. Bull. Med. Dept.*, Wash. Univ., St. Louis, 1907-8, vi., p. 45.
6. Biegel. See *Green Med. Times*, N. Y. 1908, xxxvi, p. 136.
7. Peterson. *Am. Jnl. Obstet.*, May, 1908.
8. Cragin. *Surg. Gyn. Obstet.*, Chic., July, 1908.
9. Humpstone. *Am. Jnl. Obstet.*, Apr. 1908.
10. Polak. *Surg. Gyn. Obstet.*, Chic., July, 1908.
11. Delbet. *Annales de Gyn.*, 1908.
12. Barrett. *Med. Rec.*, Apr. 25, 1908.
13. Schauta-Wertheim. *Doderlin & Kroenig Gynekologie*.
14. Watkins. *Am. Jnl. Obstet.*, xv., 1899.
15. Doderlein & Kroenig. *Text Book*.
16. Pfannenstiel (Cohn). *Archiv. fur Gyn.*, band 84, heft 1.
17. Vignard. *Gazette medicale de Nantes*, June, 1908.
18. Ashton. *Practice of Gyn.*, p. 576.
19. Frederick. *Am. Jnl. Obstet.*, July, 1908.
20. Robb. *Am. Jnl. Obstet.*, 1907.
21. Simpson. *Am. Jnl. Obstet.*, Nov., 1907.
22. Stellwagen. *Am. Jnl. Obstet.*, Jan., 1908.
23. Simpson. *Am. Jnl. Obstet.*, July, 1908.
24. Vineberg. *Ibid.*
25. Wertheim. *Archiv. fur Gyn. Bd.*, lxi.
26. Ries. *Zeit. fud Geb. u. Gyn. Bd.*, xxxii, s. 266.
27. Clark. *Johns Hopkins Hosp. Bull.*, Nos. 52 and 53, 1895.
28. Schauta. *Monat fur Geb. u. Gyn. Bd.*, xix, h. 4, s. 475.
29. Clark. *Gynecological and Abdominal Surgery*, 1908, p. 734.
30. Wertheim. *Centralblatt fur Gyn. Leipz.*, xxxii, p. 175.
31. Winter. *Ibid*, Sept. 5, 1908.



# RÉSUMÉ OF THE PRELIMINARY REPORTS OF THE INTERNATIONAL SOCIETY OF SURGERY MEET- ING AT BRUSSELS, SEPTEMBER 21-28, 1908

By RUSSELL S. FOWLER, M.D.

## CANCER OF THE MALE GENITO-URI- NARY TRACT. DR. FELIX LEGUEA (Paris).

CANCER is not equally malignant in the different parts of the genito-urinary tract. In each part the disease meets with different obstacles to its extension and the rapidity of the growth is correspondingly affected. The gravest cancers are those of the prostate, bladder, and urethra because the early diagnosis is difficult. Usually when the tumor is recognized and removed the operation proves insufficient. When the tumor is situated in the kidney, testicle or penis, especially in either of the latter two, operation is followed by cure in many instances. As regards the kidney definite cures are rare; the results in cancer of the testicle and penis being better, probably due to accessibility of the latter organs and the consequently earlier diagnosis. Although the surgery of cancer offer many startling surprises it is true that early and extensive operations give the most definite cures.

## CANCER OF THE FEMALE GENITO- URINARY ORGANS. DR. J. L. FAURE (Paris).

The author does not discuss cancer of the external genitalia, uterus and appendages except to say that when the disease attacks the lower third of the vagina it should be treated in the same way as cancer of the vulva, while when it occurs in the upper two-thirds should be treated in the same manner as cancer of the cervix. *i. e.*, by vagino-abdominal colpo-hysterectomy. He further states that there is still considerable discussion regarding the treatment of cancer of the cervix. As early as 1896 the author employed abdom-

inal hysterectomy in the treatment of cancer of the cervix. Though having a relatively small number of cases to operate upon he secured definite cures in a large proportion. He has records of ten cases of extensive cancer which have remained free from recurrence for periods varying from 2½ to 9 years. On these facts he bases his convictions as to the superiority of abdominal hysterectomy. He considers Wertheim's operation far superior to the vagino-perineal hysterectomy of Schuckardt and Shauta. The former is no more severe in well limited cases, while if the disease is extensive it allows of a wider removal. Vaginal hysterectomy is admissible only in patients too weak to stand the abdominal procedure or in whom obesity is marked. The search for remote glands has more inconveniences than advantages. The removal of glands should be limited to those situated between the bifurcation of the iliac arteries. In complicated cases he advises preliminary ligation of the hypogastric arteries. In well-limited cases his choice is abdominal hysterectomy; if extensive but with a mobile uterus he advises the vagina-abdominal operation using first a circular incision in the vagina at a distance from the growth and working upward. This renders easier what is usually a very difficult operation.

## CANCER OF THE LIP. PROF. I. G. VON BONSDORFF (Helsingfors).

The disease attacks the upper lip in 5 to 6 per cent. of the cases. Irrespective of which lip is affected the operation to be radical must include beside the removal of the tumor, excision of the submaxillary glands, the glands beneath the chin and the chain of glands situated be-



low the sterno-mastoid along the course of the great vessels of the neck. When extensive, the sub-clavian glands also should be removed. In removing the glands it is not sufficient to make an incision beneath and parallel to the chin, but there must be added another vertical incision along the anterior border of the sterno-mastoid and finally a third incision parallel to the clavicle. The method advised by the author gives very much better results than the older methods. The mortality of the operation is small and in the author's hands there have resulted 80 per cent. of cures at the end of three years. As other statistics show that 90 per cent. of the recurrences occur before the end of the three year period it may be stated that in 80 per cent. of cases the author's method results in a permanent cure.

THE TREATMENT OF INOPERABLE CANCER. HENRY MORRIS  
(London).

The author first gives a definition of the title of his paper. He then discusses the value of palliative operation resorted to in cancer of the parts most frequently affected, but only from the standpoint of their reported or accredited beneficial results. He questions the advisability, from the patient's standpoint of performing some of the operations now commonly performed, as for example in cancer of the larynx, esophagus and stomach. He urges the necessity of early diagnosis, and early operation in cancer and in the pre-cancerous stage. He refers also to the shifting from time to time of the line of demarcation between operable and inoperable cancer and alludes to cancer of the uterus as a striking illustration of the shifting of opinion and practice. After briefly alluding to other methods of treatment he mentions how attention came to be directed to ferments as a possible means of combating cancer. He gave a brief history of the introduction of trypsin, amylopsin and epepsin in this respect and

finally reviews the position at the present time of trypsin as a so-called cure of cancer, citing the negative finding in the mouse experimentations of Bashford, Murray and Bowen.

THE TREATMENT OF CANCER BY  
RADIOTHERAPY AND BY RADIUM.  
DR. JAMES H. SEQUEIRA  
(London).

It is obvious that we should expect better results from radiotherapy in the treatment of cutaneous cancer than in lesions which are more deeply seated. The most brilliant results are seen in cases of rodent ulcer, in which the glands are not involved, and in other conditions in which glandular involvement occurs late. The author's first experience in the treatment of malignant disease of the skin was in June, 1900. The patient, a hopeless case of extensive rodent ulcer was greatly benefited. His first series of 12 cases of rodent ulcer was published in 1901, with a report of the microscopical changes produced in the growths by the rays. The technic has changed since the introduction of instruments of precision so that now the dose of X-rays is measured in every case. Radium does not do anything that the X-rays cannot do but is convenient in treating cavities. For some years the author has removed the warty or thickened margins of rodent ulcer by the knife or curette before applying the X-rays. It is difficult to accomplish removal of the thickened edge otherwise.

*Results:* In rodent ulcer, 75 patients are known to be well three years after treatment; 6 have been cured for more than six years and 14 for at least five years. Thirty-eight cases, apparently cured, relapsed, 11 relapsed more than once. One patient remained well for four years and then returned with a recurrence. In four cases the disease healed once but relapsed and has not healed again. Three patients had deep recurrence in the bones of the face after the superficial lesions



had healed. In 41 cases the treatment failed, in 19 there was relief, but in 16 the disease progressed in spite of treatment. There were 8 deaths directly due to the ulcer, meningitis and sepsis being the actual causes.

*Squamous Epithelioma.* Success depends upon the absence of glandular involvement. Excision at the earliest possible moment followed by X-ray is advised. Time is of the utmost possible moment. Details are given of a case in which the primary lesion healed at once under the rays but the glands even though treated by direct exposure to the rays (a preliminary operation having been performed) were unaffected. *Epithelioma* of the lips, floor of the mouth, tongue, pharynx and jaw have been treated palliatively; pain was relieved, ulceration cleansed, but there was no real benefit. Of cases of carcinoma one remains well three and one-half years after; one well eighteen months after excision followed by X-rays; several unsuccessful cases. *Epitheliomas* in xeroderma pigmentosa, removal of tumor followed by X-ray satisfactory; no recurrence in situ.

Of *Paget's disease* of the nipple, three cases, all were healed partially or completely, but cancer followed in each. All ended fatally. The author comments on the so-called "cures" in this disease. In his opinion the cases have not been watched long enough. He advises operation.

*Mammary Cancer.* Treatment applied to recurrences after operation. Nodules diminish and even disappear; pain is relieved; sometimes edema of the arm is lessened; ulceration is healed; no case cured though life has been prolonged for three years after the case has been deemed inoperable. Application after operation is recommended. Statistics are not available as sufficient time has not yet elapsed to state opinion as to its efficacy. *Sarcoma.* Notes of six cases with one cure. This was a mixed celled sarcoma recurring twice after oper-

ation; known to be well three years after X-ray treatment. The rays are advised as a preliminary to operation on large sarcoma. *Mycosis fungoides*; remarkable benefit in one case. The large tumor disappeared and the patient was well five years afterward.

#### INJURIES TO THE SPINAL CORD. PROF. F. DE QUERVAIN (La Chaux-de-Fonds).

1. We do not know any clinical syndroma that can be ascribed to spinal commotion, viz., purely functional disturbances without any anatomical lesion.

2. Our present knowledge as regards diagnosis enables us in most of the cases to trace with practical certainty the distinction between a partial or a total lesion. Nevertheless some cases of partial lesion show during the first few hours and even during the first few days all the symptoms of a total lesion.

3. The Bastian-Bruns law concerning the definite loss of the tendon reflexes in cases of total traumatic lesion of the spinal cord in man finds confirmation in practically all the cases, meaning by this that the *presence* of these reflexes makes the absence of a total lesion practically certain. On the other hand the *loss* of these reflexes could not be taken for an absolute proof of an actual total lesion, unless that sign should be persistent. In many cases of partial lesion temporary loss of tendon reflexes is observed. In some cases the loss persists longer than eight days.

4. The nature of the nerve disturbances does not permit us to make distinctions between spinal compression and contusion. The conclusions reached regarding the nature of the vertebral lesion allow nothing more than probabilities. The differential diagnosis between extra-medullary hemorrhage and hematomyelia is easier but by no means always certain.

5. According to experiments done on adult dogs and rabbits neither the fibres nor the nerve cells are capable



of regeneration, for there has only been observed some beginning formation of nerve fibres in the scar or along the uninjured dura both devoid of any importance from a functional standpoint. The result published by Stewart and Harte of a successful suture of the cord is unique up to the present time and does not permit valuable conclusions so long as no anatomical examination has been made.

6. The traumas of the spine are in no way comparable, as regards operative indication, to the traumas of the skull.

7. Neither extra-dural hemorrhage nor intra-dural hematoma give, as a rule, any operative indication, unless a compression of the cervical medulla by a hematoma without concomitant contusion of the medulla, a difficult diagnosis, imperils life owing to progressive respiratory disturbances. A late operation is indicated by incomplete absorption of the hematoma.

8. Operation is indicated in any case presenting symptoms of hemyomyelia.

9. An early operation is indicated: (a) When the nerve disturbances must be attributed, after clinical examination, to fracture of an arch.

(b) When in gunshot injuries, the radiographic examination shows the presence of the bullet in the vertebral canal.

10. Early intervention may be useful, without presenting, however, much chance of success:

(a) When, in a fracture-dislocation, bloodless reduction has failed and the patient prevents symptoms of a partial lesion (favorable results in case of compression between the body and arch, but quite useless in case of contusion).

(b) When in a gunshot lesion, the bullet is no longer in the canal (good results in compression by bone splinter, bad in contusion or partial section).

11. Late intervention is indicated:

(a) If in the above mentioned cases (9 and 10), an early operation has not been done, and the nerve

disturbance has not improved spontaneously.

(b) If a further aggravation of symptoms should occur in a case of partial lesion (compression by callus especially in cases of fracture by compression).

12. Operation was hitherto indicated in all cases of total lesion early established. This rule will be greatly modified if the success of the medullary suture is confirmed. It will be no longer available except for total lesion in the cervical region. Here, indeed, restitution would come too late to avoid a fatal issue. In all total lesions situated lower down, on the contrary, the suture might be tried, if the medulla be not destroyed to too great an extent. A trial should be made in all cases of lesions by edged weapons and by fire-arms. Cases where the contusions are clearly limited will not be absolutely excluded (Briggs' case).

13. The further systematic examination of subjects having undergone laminectomy should inform us of the degree of innocuousness of this intervention with regard to the appearance of subsequent disturbances attributable to the operation. This examination must take into account the operative processes so as to permit studying their comparative value.

14. The study of collected statistics (218 cases) including mild and severe cases furnishes the following immediate results:

Cured, 13.8 per cent., of which 10.5 per cent. were favorably influenced by surgical intervention.

Improved, 22 per cent., of which 16 per cent. were improved by surgical intervention.

Remaining without change, 37.2 per cent.

Unfavorably influenced, 1.8 per cent.

Died soon after operation, 25.2 per cent.

SURGICAL TREATMENT OF CIRRHOSIS OF THE LIVER. PROF. C. F. A.

KOCH (Groningen).

1. It is experimentally and clinically demonstrated that omentopexy



will cure impaired venous circulation resulting from obstruction or stricture of the portal vein. 2. Ascites and gastro-intestinal hemorrhage occurring in atrophic hepatic cirrhosis can be cured by omentopexy. 3. In advanced cases the operation is dangerous, better results are obtained by doing the operation in the beginning of the cirrhotic process. 4. The symptoms of impaired venous circulation disappear in about 30 per cent. of the operated cases. 5. The hepatic disease itself is probably not modified by the operation. 6. When omentopexy gives no results spleenopexy may sometimes be successful. 7. Eck's fistula, tried once by the author, is condemned by him as being too severe. 8. In hypertrophic cirrhosis drainage of the gall-bladder may be useful. 9. Complication of the cirrhosis by nephritis does not contra-indicate Talma's operation.

**GALLSTONES.** Prof. Hans Kehr (Halberstadt). *Indication for operation.* The early operation for cholelithiasis recommended by Riedel

is not advised. In acute and chronic empyema of the gall-bladder and in chronic obstruction of the common bile duct operation is absolutely indicated. Patients suffering from severe and repeated attacks of colic should be operated upon if they desire freedom from the pain and its inconveniences. *Choice of operation.* Cholecystendysis is condemned, cholecystostomy rarely performed, cholecystectomy preferred. As a rule choledochotomy with drainage of the hepatic duct is preferable to choledochotomy with immediate suture. *Results.* These vary with the nature of the disease. In uncomplicated cholelithiasis the mortality is 2 to 3 per cent.; in complicated cases involving an operation on the stomach, intestine, liver or pancreas, the mortality is 20 per cent.; in malignant cases, 75 per cent. Recurrences are possible after cholecystendysis and cholecystostomy; following cholecystectomy with hepatic drainage, recurrence is very rare.

## PROGRESS IN MEDICINE FOR 1908.

By HENRY GOODWIN WEBSTER, M.D.

A GENERAL review of the advances in medicine and therapeutics for the past year must of necessity be in briefest outline only, though the temptation to amplify such a discussion is great. Lack of time and space therefor must preclude more than the mere mention of a few prominent steps forward out of the abundance of the year's contributions.

### DISEASES OF THE RESPIRATORY SYSTEM.

**Tuberculosis.** Since Calmette's original announcement of the ocular reaction to tuberculin in tuberculous patients, much confirmatory evidence has been submitted. In addition numerous observations on the cutaneous reaction have been reported. While there are ardent advocates of either method, the bulk of evidence seems to point to the ocular method as pos-

sibly the more reliable, certainly the easier. The reaction is more certain in recent than in well established cases. In typical cases a decided conjunctivitis follows the instillation of a drop or two of a 1 per cent. aqueous solution of the alcoholic precipitate of Koch's old tuberculin in from 6 to 18 hours. The reagent may now be procured in convenient form for office use.

In the early diagnosis of doubtful cases emphasis has been laid by several writers on the following auscultatory sign: pronounced transmission of the heart sounds to the right infra-clavicular region. It is claimed that consolidation of the lung, too little advanced to cause dullness or bronchial breathing, will nevertheless transmit the heart sounds distinctly.

E. G. Whipple lays stress on the necessity of observing the *relative*



signs in early tuberculosis when distinctive physical signs are difficult of detection. These include slight gastric disturbances, a slight afternoon temperature, fatigue, anemia, impaired expansion, slight cough, etc.

Placak announces excellent results from amyl and sodium nitrite in controlling hemoptysis. He watches the effect on blood pressure and believes that the only contraindication is bleeding from vessels of considerable size. The *Journal of the American Medical Association* for November 28, 1908, contains an article by Barton Lisle Wright, M.D., detailing his experience with mercury in the treatment of tuberculosis. He draws a parallel between the bacteriology of tuberculosis and syphilis. He reports results obtained with hypodermatic injections of the succinimide of mercury at the U. S. Naval Hospital, New Fort Lyon, Colorado, which may be summarized as follows: Of all the patients not treated by mercury only 33 per cent. have shown improvement; while of 67 cases treated by the mercurial method 58 have shown decided improvement and 2 have been positively cured. The hospital death rate has fallen from 11.29 per cent. for the first 3 months of 1908 to .95 per cent. for the third 3 months. This report is submitted without comment by the reviewer.

*Vaillard & Dopter's* report on the use of antidysenteric serum in dysentery due to the *B. dysentericus*. In a series of 296 cases there were 5 deaths. The duration and intensity of the disease were lessened promptly and the tenesmus and other distressing symptoms relieved within 24 hours in the majority of cases; 20 c.c. is the initial dose recommended for adults, rising to 60 in very severe cases and repeated if necessary. For children, half the amount (*Internat. Clinics*, 18th series, Vol. II, p. 48).

*Typhoid Fever.* Various writers take up the subject of liberal diet in typhoid. Some report excellent results in the cases where a generous diet was allowed, while others of equal authority as vigorously condemn it. A few whose opinion is worthy of re-

spect allow only water. The question is unsettled.

Letulle (*Press Medicale*, XV, No. 83) calls attention to the appearance of small rounded ulcers of a yellowish gray color on the soft palate as an early diagnostic sign in typhoid. They may often be demonstrated before the Widal reaction. Of other methods of diagnosis, blood cultures are recommended by a number of writers, while Chantemesse renews his favorable opinion of the oculo-toxic reaction with a toxin prepared from cultures of typhoid bacteria just as in the tubercular test.

J. A. Scott urges early operation in all cases of perforation. Delayed operation practically always fails. No interference results fatally, but a certain percentage of good results accrue from *prompt* and *rapid* surgical intervention.

Further observations on the use of prophylactic injection of typhoid serum is reported. Lieutenant Luxmore reports (*Br. Med. Jour.*, June 22, '07) that during an epidemic of typhoid fever 2 out of 150 men who had received the immunizing dose contracted the disease, while 61 unprotected men were attacked.

Following Soper's account of a woman whose stools remained infectious for a prolonged period (*Journal A. M. A.*, June 15, 1907), several cases have been reported where the *B. typhosus* was cultured from the stools long after seeming recovery. In at least one instance incision and disinfection of the gall-bladder caused a disappearance of the bacilli from the stools.

#### GASTRO-INTESTINAL DISEASES.

*Pancreatitis.* Additional evidence of the positive value of Cammidge's reaction in the urine of patients suffering from interstitial and malignant pancreatitis is at hand. The technic of this reaction, while not difficult, is somewhat involved, but the appearance of yellow crystals presenting fairly constant characteristics is a valuable confirmatory sign. Emphasis is also laid on the examination of the stools for uncombined fat and for



muscle fiber. Robson emphasizes the diagnostic importance of pain under the left scapula. Several observers confirm Opie's claim of the association of gall-stones and pancreatitis that a concretion lodging in Vater's diverticulum forces bile through Wirsung's duct into the head of the pancreas, where inflammation of varying intensity results. Subsequent pressure by the swollen head of the pancreas on the common bile duct determines a persistent jaundice which must not be overlooked in the symptom complex of pancreatic disease.

#### SERUM THERAPY.

The action of Flexner's serum continues to elicit favorable reports. Among them 'L. W. Ladd (*Journal A. M. A.*, Oct. 17, 1908) announces the result of its use in 31 cases, 30 of which showed diplococci; 11 cases, 6 of which were hopelessly sick before treatment was instituted, died. Of the 15 cases in which injections were given within 72 hours of the onset, 14 recovered, and 5 who were treated within 28 hours recovered. The average duration of these 5 cases was 12 days, the duration increasing rapidly the longer the treatment was delayed. Ladd advises small repeated intraspinal with larger subcutaneous injections in those patients whose cerebrospinal fluid shows numerous extra- and intra-cellular organisms. The temperature furnishes no index of the severity of the infection. One patient developed a suppurative arthritis of the knee, in which aspirated pus contained an intracellular diplococcus. It promptly subsided after an injection of serum into the joint cavity.

Sladen reports 21 cases with 3 deaths. Beside these Flexner and Jobling have tabulated 393 cases with 98 deaths—approximately 25 per cent. mortality. Their summary corresponds in general with what has been reported above (*Jour. A. M. A.*, July 25, '08).

Ortner speaks well of injection of Moser's serum in the treatment of scarlet fever. An initial dose of 100-200 c.c. is injected into the lateral abdominal wall, followed by others on

succeeding days, if immediate benefit does not appear. Details of its effects are lacking (*Treatment of Internal Diseases*, p. 580).

#### OPSONINS AND VACCINES.

Gildersleeve sums up the present standing of the treatment of disease by vaccines as follows: In experienced hands, after a determination of the opsonic index much may be accomplished by the use of the appropriate vaccine, but indiscriminate use of stock vaccines applied empirically results in failure and may do much harm. He strongly deprecates the vending of commercial vaccines.

In general infections the results of vaccine treatment are disappointing, but in a variety of chronic, local and some few acute infections much has been accomplished. He includes in the list of successes the treatment of furunculosis, carbuncle, osteomyelitis, periostitis, all of staphylococcic origin as well as bone lesions in which this variety of coccus complicates tuberculosis. Some staphylococcus infections of serous membranes have been benefited, as endocarditis, pleurisy and peritonitis.

Corresponding streptococcus infections have yielded even better results.

Pneumococcus infections of the pleura have responded fairly well, but in the lungs have resisted vaccine treatment.

In catarrhal conditions of the nose and throat; in chronic otitis media; and in some infections of the bladder and kidney, encouraging reports have been received.

Gonorrheal infections, especially the chronic type in females and the joint manifestations have received extended attention with flattering results. W. J. Butler and J. P. Long report the results in 25 cases in female children; 9 out of 12 acute cases and 11 out of 13 chronic cases recovered in from 38 to 43 days (averages). Inoculations were given about once in 5 days.

Careful observations of the opsonic index were made repeatedly in each case. Their results tally closely with those of Churchill and Soper.



## SYPHILIS.

Harris and Corbus (*Jour. A. M. A.*, Dec. 5, 1908) describe their experience in identifying the spirocheta pallida (elsewhere called treponema pallidum). They briefly review the unsatisfactory results of various staining methods and then recommend the method of examination of fresh serum from chancres, mucous patches and even ulcerating skin lesions and gummata by the "dark stage illuminator." They furnish illustrations of Reichert's instrument and explain the manner of using it. A table of 81 positive findings and one of 17 negative results are appended, the former from fresh sores, the latter from tertiary lesions. They conclude that "1. The *S. pallida* is the true cause of syphilis, and its presence is equivalent to the diagnosis of syphilis. Its absence does not rule out syphilis. 2. The silver spirochetes are true organisms. 3. By means of this method the spirochete may be demonstrated in all primary and secondary lesions of syphilis, if the search is persistent. 4. After demonstration of the organism do not delay, but, if possible, excise the sore and institute vigorous treatment."

W. J. Butler (*Jour. A. M. A.*, Sept. 5, 1908) reviews the serum diagnosis of syphilis. He describes the difficulties of the technic, compares the value of the Wasserman and Porges methods to the advantage of the former. He concludes "that the serum reaction for syphilis is specific; that it is positive in 90 per cent. of all cases with syphilitic manifestations and in 50 per cent. to 60 per cent. of latent cases. It will be found of enormous advantage in differential diagnosis in every department of medicine.

Halloplacé (*International Clinics*, 18th Series, Vol. II, p. 12) describes his experiences with atoxyl in the treatment of syphilis. He has collected 124 cases in which rapid positive results accrued. The average dose

was gm. 5 to .75 given hypodermically 3 times a week. He also emphasizes the poisonous properties of this active arsenical compound and details some of the untoward results of its use, but decides that with care and watchfulness it should be of the greatest service in the treatment of syphilis.

Much comment, favorable and otherwise, has followed the appearance of an announcement before the New York Academy of Medicine by Dr. Le Grand N. Denslow of the excellent results obtained by healing small ulcerations in the deep urethra of patients suffering from locomotor ataxia. He reported some thirty cases in which the atoxic symptoms had been greatly benefited, though the knees jerk, Romberg's sign, and Argyl-Robertson pupil remained unchanged. Much confirmatory evidence must be submitted before the doctor's results can be unreservedly accepted.

Of the *rarer forms* of disease there may be mentioned several reports of Pellagra occurring in the southern States. N. H. Moore, writing in the *Journal of the American Medical Association* for September 26, 1908, reports a case in full and refers to several others. J. W. Bacock contributes an extended consideration of the subject in the *Journal of the South Carolina Medical Association* for February, 1908.

Koch in *Deutsch. med. Wochen.*, xxxii No. 9, offers his final report on sleeping sickness. He claims that the crocodile furnishes the usual course of nourishment for the tse-tse fly and reports on atoxyl as a curative agent in trypanosomiasis. Previous reports on the arsenical treatment by Manson and others were distinctly discouraging, but Koch's results, as well as experiments by Laveran, seem to indicate that this form of arsenic has positive value in destroying the trypanosomes.



# REVIEW OF PROGRESS IN THE TREATMENT OF DISEASES OF THE UPPER AIR PASSAGES IN 1908

By WILLIAM C. BRAISLIN, M.D.

HAY FEVER.—Less has appeared on hay fever this year than last, when its bibliography was unusually full. Heymann (*Arch. internat. d'otol*, xxxiii, No. 3) recommends, besides other and more usual methods, in the treatment of hay fever, the internal use of thyroid extract. In 19 patients, each of whom was given nine grains a day for a time previous to and during the usual periods of occurrence, three escaped altogether, while sixteen were benefited. The reviewer would point out the frequent result of profound mental depression from the use of this remedy, the onset of which may well be watched for, when this remedy is prescribed. Its appearance should be the signal for its immediate disuse. Schadle says that he has found diseases of the maxillary antrum (*Medical Record*, 1907) a frequent cause of hay fever. He claims in cases of this character to have obtained permanent cure in almost every case by washing out the antrum with a cleansing wash through the canula, afterward insufflating the cavity with iodide of thymol.

METAMORPHOSIS OF HYPERTROPHIED TONSIL TO MALIGNANCY.—*Apropos* of a case of hypertrophy of a tonsil, sections of which in several successive microscopical examinations were found to metamorphose from apparently normal tonsillar tissue to malignant, Jonathan Wright (*Laryngoscop.*, xviii, 1908, p. 88) remarks that he has never observed such a phenomena but in this one case. In papillomatous and adenomatous growths, examined at intervals, he has never observed histological change from benign to malignant type. In the case first referred to, he believes that malignancy was present on the first examination, though it was not revealed by the microscope. The essence of malignancy he regards as back of all biological demonstration.

This does not detract from the value of the microscope as a means of diagnosis, but shows that more than mere structure must be taken into account in microscopic diagnosis.

TUBERCULOSIS OF NOSE AND THROAT.—Successful treatment of a case of tuberculosis of tonsils and pharynx is reported by Bobone (*Arch. otal. di otologia*, xvii), who attributes the cure to the use of methylene blue. A large ulceration occupied the areas mentioned, on which was secreted a tenacious grayish exudate, the removal of which caused free bleeding. The surface was curetted freely, sponged with dry tampons and an application of mercury cyanide, 1 to 5,000 made to the surface; afterward he applied lactic acid 50 per cent., and finally after the arrest of all hemorrhage, methylene blue, 1 to 500, was painted over the surface. In a week healing commenced and was completed in two months.

Beverley Robinson in *Amer. Jour. of the Med. Sciences*, 1908, recommends as the two foremost essentials of treatment in tuberculosis of the larynx (1) rest and (2) inhalations, especially of creosote, alcohol and spirits of chloroform, equal parts.

Grünberg reports a cure of tuberculosis of the nose, pharynx and larynx (the diagnosis was by microscopic examination) in four and one-half months with iodide of potash and mercury (*Münch. Med. Wochenschr.*, No. 34, 1907). Scheibe, who reviews this case, says (*Arch. Otol.*, xxxvii, 1908) that he has observed a case of lupus healed under iodide of potash, and calomel used locally. Cutaneous nodules occurring synchronously in the same case (presumably also tubercular) were not healed until after the use of the Finsen light.

Hurd (*Laryngoscope*, xvii, p. 531) reports one case of tuberculosis, each, of nose, pharynx and larynx in which



the diagnosis was difficult and gives the expert deductions of the pathologist in deciding the cases (by microscopic sections) as between syphilis and tuberculosis.

ADENOIDS.—In a paper on the clinical and histological observations of adenoids, Lindt gives a careful analysis of a series of cases of adenoids (*Corresponding-blatt f. Schweiz*, Nos. 17 and 18). He found in 50 cases of removed adenoids, tuberculosis in five; three in adults and two in children, all of whom showed evidences of constitutional weakness. No other evidence of tuberculosis at the time of operation was apparent, but one child of five years subsequently developed a middle-ear tuberculosis.

E. H. White (*Amer. Jour. of the Med. Sciences*, 1908) has recorded a somewhat similar study. Seventy-five adenoids were examined histologically, tuberculous lesions being found therein in five cases. This is not a large proportion, but supplies sufficient evidence that this etiological factor figures in a number of cases in children and adults of degenerated physique.

HEADACHE FROM NASAL CAUSES.—Cocks and Mackenty (*Arch. Otol.*, xxxvii, pp. 5-16) from their studies of headaches of intra-nasal origin, conclude that septum-turbinate contact does not cause headaches, except in those otherwise very prone to them. To cause pain there must be pressure.

Localization of the pain in certain parts of the head is not typical for the affections of the different sinuses. Frontal headache may be caused by inflammation of the frontal, ethmoidal, maxillary or even the sphenoidal sinuses. The characteristic pain of sphenoidal sinusitis is felt in the occiput or at the vertex (it may likewise be referred by the patient to the ears as the reviewer has observed). Usually, maxillary antral pain is located over the cheek or in the teeth. Pain from the frontal sinus is commonly located over the sinus, especially at the supraorbital notch. A periodical recurrence has been noted in frontal

sinus inflammation, the pain coming on in the forenoon, continuing until from one to four o'clock, then remaining absent or nearly so until the following day.

FRONTAL SINUS.—The advocates of intra-nasal, and supporters of the external operations have each upheld their contrary positions as to the superior adequacy of each, but few to the entire exclusion of the other for certain selected cases. Barnhill (*Annals of Otology*, xvii, 1908, p. 745) speaks of the frequent erratic growth of granulation tissues as it springs from a bone surface exposed by curettage, in both mastoid and nasal sinus surgery. He attributes to the occasional rapid sprouting of large, erratic granulations, which hinder the free drainage of secretions from the raw surfaces, the cause of occasional failures in both external and internal operations on the frontal sinus.

Beck (J. C.) has proposed a new operation for diseased conditions of the frontal sinus (*Jour. A. M. A.*, 1908, li, p. 451). Its interesting feature is concerned with a previous determination of the limits of the frontal sinuses by skiagraphy. Hajek (*Wiener Med. Wochenschr.*, 1907, pp. 879-882) reviews the various methods of operating in inflammations of the frontal sinus. He describes his own modification of Killian's operation which consists chiefly in a more complete separation of the soft parts from the bony orbit, the entire inferior wall of the frontal sinus being exposed.

RHEUMATISM AND THE THROAT.—Mayer (*Laryngoscope*, xviii, 1908, pp. 610-620) in a discursive paper presents the views of many specialists and others as to the dependence of rheumatism upon diseased conditions of the throat, and especially the tonsil. He believes that we may conclude that infection in rheumatism and gout enters the system by way of the mouth; the opinion of the majority being that the chief point of entrance is the tonsil. Rheumatism may, in turn, affect the nose, pharynx and larynx. Gout



likewise affects these structures, but most frequently the nasal mucosa. Diabetes frequently manifests itself in rheumatism, and careful examination may first direct suspicion to its presence, from the throat condition alone. Later, in the course of diabetes, furuncles and ulcers of the throat are rather common.

THE STATUS LYMPHATICUS AS IT AFFECTS OPERATIONS ON THE THROAT.—Roberts (*Ibid.*, p. 724) quotes from Eschderick in giving the characteristics of subjects presenting the condition of the status lymphaticus as follows: "The subjects of status lymphaticus usually have a pale, thin skin, a pasty complexion and a good pad of subcutaneous fat. Frequently, signs of rachitis or scrofula are present. The superficial lymph glands, especially those of the neck and axilla, are enlarged. There is hypertrophy of the tonsils, the circumvallate papillæ of the tongue and the pharyngeal lymphatic apparatus (adenoids). The spleen is often palpable. The thymus gland may be palpable, the development of the generative organs faulty. In children there may be a history of laryngismus stridulus or dyspnœa; in adults, of fainting attacks." The rather frequent occurrence of deaths at or shortly following operations in these subjects leads the writer to advise special care in preparing them for operation and advises the invariable

choice of ether as the anesthetic to be employed.

DISEASE OF NASAL ACCESSORY SINUSES, A CAUSE OF OPTIC NEURITIS.—Fish states that he found disease of the nasal accessory sinuses in twenty-six of thirty-six consecutive (idiopathic) cases of optic neuritis (*Brit. Med. Jour.*). He therefore believes diseases of the nose to be the most common cause of this eye disorder as well as of glaucoma. He recommends an examination of the nose in every case and especially where no definite etiological lesion is obvious.

THE THROAT AND EAR IN SCARLET FEVER.—Adenoids predispose to severe otitic complications. This predisposition exists whether the adenoids have been previously removed or not. There exists a constitutional condition which favors adenoids, in common with an especial severity to scarlet fever. So Nager believes (*Correspondence-Blatt f. Schweizer Aerzte*, 1908, p. 513) from his study of 750 scarlet fever patients in the isolation hospital at Basle, among whom otitis occurred in 23 per cent. Discharging otitis media was present in 6.5 per cent. Involvement and destruction of the labyrinth in two cases. Noses and throats of patients were kept clear by adrenalin, by weak solution (0.5) hydrogen peroxide and boracic acid solution and finally with a mild oily spray, repeated several times daily.

## SOME FOREIGN NOTES

By ROBERT L. DICKINSON, M.D.

POZZI, of Paris, who says he learns many things from his trips to America, declares that our surgeons rarely visit each others' clinics and do not know each others' ways. We see European clinics and not our own.

### SHALL SURGEON DIVIDE WITH FAMILY PHYSICIAN?

Since Pean began the practice about 1893, I understand that in Paris

operators halve the fee with the medical attendant. When one argues there that this will cause the less scrupulous practitioners to refer their patients, not to the best equipped surgeon but to the man who shares, one is met with the answer that this objection falls to the ground the moment the practice becomes universal. It is held, further, that the surgical cases are numerous wherein there is grave



responsibility and long after-care for the family physician, and no adequate remuneration for his painstaking diagnosis, important decisions, and anxiety. If the medical man is suffering in general the injustice in the matter of fees that the obstetrician does, the question calls for discussion and certain queries concerning relative returns are pertinent. Is it true that very few of the younger men of marked ability are being attracted toward general practice and internal medicine? If true, is it because the rewards, both in fees and honors, are small as compared with those of the surgeon and the specialist? Is general medicine in Brooklyn being drained of its men of great promise in a way that should make one uneasy about the future? However high our ideals of life-for-service-and-self-sacrifice may be, the public cannot fairly look for the best brains to take up the most important department of our art if a man cannot earn a competence without excessive labor. A study of fees and a general agreement on readjustment may be in order.

#### THE STENOGRAPHER IN THE OPERATING ROOM.

Many German surgeons dictate, during examination and operation, to a woman who is not a nurse, but who assists the anesthetist, and takes care of messages to and from the outside. Thus the most important part of the surgical history is full and accurate, and does not embody the house surgeon's guess, two evenings later, whether it was the left or the right ovary that was taken out. Such a clerk might well be in charge of the histories in the office and of their indexing. The professional staff may have to pay her until the office finds she is indispensable.

#### PHARES (LIGHT-HOUSES).

To brilliantly illuminate the field of operation without the filament itself being in sight, and particularly to avoid the uncomfortable heat of large groups of lamps found in many of our operating rooms provided with re-

flectors that focus the discomfort upon the operator, it has seemed to me that we might more often employ the portable outfit on a standard. The main drawback, the cord, could drop from some swinging bracket. This is the only light Tuffier uses. In other ways his operating room at the Hospital Beaujon in Paris is of extreme simplicity. He excludes all furnishing but a blackboard let into the wall, a washstand for one, a small instrument table and an operating table. The instruments are as few as Ochsner's in Chicago. One sterile house officer and one sterile nurse assist, yet work goes swiftly. The catgut (procédé Carion) is threaded into Doyen needles, curved, with right angle, eye on point, shank in handle—what have been sold here for twenty years as Dickinson perineal needles. The stitches are few, far apart, the skin caught by metal clips, and the zinc oxide strap seemingly unknown.

#### SPINAL ANESTHESIA.

Stovain is very frequently used, Tuffier's junior assistant Du Jarrier, for instance, quoting his 400 cases without other drawback than three retentions of 8 to 10 days, due, he says, to his own fault in driving the injection, though spinal fluid had not flowed. Of course the Trendelburg posture may not be used, nor the head lowered. Stress is laid on the dosage, averaging 3.5 centigrams, 2 to 4½ being the limits, given with the patient lying on the side.

#### OPERATING-ROOM NOTES.

To avoid skin contacts the opening in the sheet or cover is made fast to the edges of the incision by forceps, nipping like crab-claws. Doyen's seem unnecessarily heavy and those of Collin better. They lie under the sheet, which is flapped across the wound in order to catch its back surface (with the forceps at the edge of the opening) to the margin of the wound. Kocher is said to have used these a dozen years.

The position of the second assistant standing between the patient's thighs, as shown in Fig. 1, though hardly good form, gives to three people about



the abdominal wound unobstructed elbow room. With us, the two side by side, hamper each other. For this grouping the thighs must be held out by spreading leg holders.

Doyen has returned to his earlier leg holder, a straight bar that maintains the limb extended to its utmost, outward and upward.

In more than one place there was seen a convenient method of holding the cone on the face. A strap of rubber tubing ran from the side of the cone around the head and back to the other side of the cone. This freed both hands of the anesthetist at need.

Operating tables are generally pro-

gauze for the top of the head is long enough to tuck into the collar of the gown. The tape along the top edge of the face guard goes above the ears, and ties behind the head outside the hair guard, while the lower edge of the face guard tucks into the collar of the gown also. Fig. 1.

It is interesting to note that big city hospitals and even the greatest clinics abroad, are being depleted by the number of small hospitals springing up in little towns. The mate to the great Billroth clinic complains that in a year no more than a pair of hip amputations or of intestinal obstructions have come to it.



FIG. 1. This position of assistant gives place for three about the operating field, who do not joggle or jostle each other. Note the excessive inclination of the table. Also the boxed-in air chamber about the patient's head.

vided with a long hoop of metal reaching above the patient's face to hold a sheet or screen between the anesthetist and the operation. But the sheet, with its sides as lateral curtains, together with the table and the anesthetist's body, so effectively box in the breathing on all sides that it would seem that avoidance of rare contacts was purchased at the cost of oxygen starvation. See Fig. 1.

The utility of the device for raising or lowering the table by means of the same oil pump that operates the dentist's chair seems to me doubtful. The table must be bolted to the floor, and cannot be shifted to suit illumination and audience.

A Heidelberg head-gear uses one tape to make all fast. A plain piece of

#### TRANSVERSE INCISION IN THE ABDOMEN (PFANNENSTIEL).

The crescentic sweep from one anterior iliac spine to the other through skin and fat and fascia, in combination with the longitudinal separation of muscle and peritoneum has the advantage of following natural skin lines, and of embodying the correct principle for minimizing the danger of hernia, while it affords ample room for work within when the upper flap is pulled upward and held by temporary stitches. But it opens up larger raw areas than a longitudinal incision, exposes far larger surfaces to contusion, and then gives opportunity for hiding places where blood or fat or pus may pocket, unsuspected, at a considerable distance from an outlet. This objec-



tion is not theory, but experience. Pfannenstiel says he don't have supuration. But some of us do. I have happened to commit more transverse incisions, taking the Küstner and Pfannenstiel together, than I hear of from any other American. And I hold strongly, as I argued when Pfannenstiel presented his operation to the American Gynecological Society this spring, that the incision has a great value in a strictly limited field. In women unlikely to form pus—that is, of excellent resisting power, with thin-walled abdomens, and particularly among *working women* who may early strain their scars—these incisions, even the big incisions, are exactly in place. For *all women with thin walled abdomens*, where one can be reasonably sure a *small incision* will suffice, as for a suspension or single non-adherent ovarian cyst, this is the best cut. The small wound defaces not at all. This is hardly a surgical argument of importance, but it is one of those considerations worthy of influencing our choice, as tending to make surgery less repulsive and objectionable to the laity—and we usually operate on the laity.

#### CO-OPERATIVE MEDICINE, AND GROUP SPECIALISM.

Mergers are the order of the day. In system and co-operative work we

doctors lag behind. Those who have sensed the coming change, like the Mayos, have done away with the reproach that the doctor can never be but one man power. Abroad they seem to see the necessary subdivision of related parts even less than here. I heard of no doctor's building, no grouping of specialists, no time-saving, patient-saving combinations, except in clinics. Our private patients should have the same chance given the free patient. At Rochester one goes to five men in two hours or three, each skilled and thorough in his special field, and reaches a complete, quick syndicate diagnosis. Otherwise for the same study he must chase about various sections of the city, to men with office hours in different parts of the day, at an absurd cost in days and money. Scoff at department store medicine if you choose, but in this day of finer and finer subdivision of labor, and a life time needed to get expertness in a single line, there is no other way but intelligent combined effort. Either we syndicate or else the general practitioner must learn to examine stomach contents and the surgeon cystoscopy. Each man must carry refinement far, or else neglect his patient of moderate means. The impossibility of every man, for instance, being his own pathologist points the moral. Group specialism is inevitable.

## REMARKS ON THE DIAGNOSIS OF OVARIAN DERMOID CYSTS

(Excerpt from paper read before the Brooklyn Gynecological Society.)

By JOHN C. MacEVITT, M.D.

Gynecologist to St. Mary's General Hospital.

THESE two cases combat the theory of a uniform progressive development and demonstrate on the contrary, at times, a remarkably rapid growth, a fact, as far as my knowledge goes, not heretofore recorded. This symptom in itself, it is true, has no great weight from a diagnostic standpoint, as such is common to simple cysts of the ovary, but when with this spasmodic growth we

have fever, pain, vomiting and free fluid, are we not justified in adding it to the symptomatology of ovarian dermoids?

The numerical relationship of dermoids to other cysts of the ovary are variously given from 3 to 13 per cent. Unilateral as a general rule, they are often found double. Participating in the form of simple ovarian cysts, that is, both existing in the



same sac, but divided by their respective walls, diagnosis is impossible. When they form the tumor *en masse*, this becomes possible by reason of their manner of termination, namely, by setting up an inflammatory process between their walls and the neighboring viscera, leading, if permitted to run their course, to a rupture into some hollow organ like the bladder or rectum.

It is my belief that dermoid cysts have no more malign influence upon their surroundings than any other peritoneal covered growth. Here I would like to advance the theory that it is only after inflammatory degeneration of their walls, where perforation ensues, permitting the escape of their acrid, irritating contents, that a localized peritonitis is developed, followed by its attendant train of symptoms. Anyway, this termination, be it post hoc or propter hoc, can also be considered an aid to diagnosis.

The spherical form so usually attributed to intra-abdominal dermoids cannot be relied upon. An irregular contour, nodular in its irregularity, may exist, due to proliferation of the fibrous tissues and the solid constituents of its sac, such as hair, teeth and bone. The frequently given diagnostic point of the tumor being anterior to the uterus is likewise unreliable. In all of my cases the location was on either side, as they should have been from the nature of their origin. Axial twisting, dislocation, separation and a wide range of mobility is no more peculiar to these than to other pediculated tumors.

We do not at the present time, as in former years, meet with so many reports of dermoids rupturing into the bladder and rectum, owing to the readiness of surgeons to operate early upon discovery of any pathological growth.

To site the differential diagnosis between ovarian dermoids and other intra-abdominal tumors would be a repetition of knowledge possessed by every member of this society. In conclusion I will say that with the additional symptoms which I have been able to record, n.i.:

1. Occasional very rapid development.
2. Vomiting after the onset of pain.
3. Aggravation of pain in the tumor for a few days prior to the menstrual epoch.
4. Unreliability of Küster's sign—position of the tumor anterior to uterus.
5. Irregularity of outline.
6. Abdominal free fluid.

The diagnosis of ovarian dermoids can never be positive; at the most inferential.

#### ACUTE APPENDICITIS IN CHILDREN.

Dr. Beth Vincent, writing in the *Boston Medical and Surgical Journal*, discusses at length the cases of appendicitis in children during the past four years. He makes the statement that during this time more than 60 per cent. of all the laparotomies were performed for this disease. In summarizing his observations he says:

"Acute appendicitis is rare in infancy, but is more common in childhood than is generally supposed.

An early diagnosis is difficult, and the first stages and lighter forms of the attack may be easily overlooked.

The prognosis of the disease is more rapid in children than in adults; the involvement of the peritoneum and the appearance of pus are early features; diffuse peritonitis is probably more frequent, but there is still greater tendency to the formation of a localized abscess.

A child is never so young and seldom so sick as to contra-indicate surgical interference, but the extent of the operation must always be measured by the condition of each patient. Children stand short operations well, but may be needlessly lost through prolonged and ill-advised efforts to do more than is absolutely essential.

The prognosis is more uncertain in children than in adults. Age is a very important factor. In children over ten years of age the prognosis is at least as good as in adults; in children under five years it is worse, and in infants the prognosis is exceedingly grave."



# LONG ISLAND MEDICAL JOURNAL

A Forum for the Discussion of all Topics involving the Medical Profession and especially that of Long Island.

EDITED BY

PAUL MONROE PILCHER, A.M., M.D.

EDITORIAL OFFICE :

386 GRAND AVENUE, BROOKLYN, N. Y.

Further Information on advertising page 3

JANUARY, 1909.

## PREVENTION OF ABUSE IN ANIMAL EXPERIMENTATION.

IN December, the following letter was received by the editor of the LONG ISLAND MEDICAL JOURNAL:

MEDICAL SOCIETY OF THE STATE OF  
NEW YORK.

To the Practitioners of Medicine of the  
State of New York:

The Society for the Prevention of Abuse in Animal Experimentation last year caused to be introduced into the legislature of this State a bill seriously restricting experiments on living animals. The above-named society now enters the field again and proposes another bill of the same general character as that of last year. The Medical Society of the State, through its committees on legislation and experimental medicine, successfully opposed the passage of last year's measure. Acting under the resolution referring to animal experimentation, which was passed at the last annual meeting of the State Society, its committees on legislation and experimental medicine will oppose the passage of the proposed bill. We therefore urge all members of the medical profession to disapprove the measure and, on its introduction into the legislature, to work in all legitimate ways for its defeat. Specific objections to it will be presented later.

(Signed) FRANK VAN FLEET,  
*Chairman of the Committee on  
Legislation.*

JOSEPH D. BRYANT,  
*Chairman of the Committee on  
Experimental Medicine.*

The Society referred to in the above communication has offices at 204 Montague Street, Brooklyn, and has recently been sending literature broadcast to help in the passage of its

proposed bill; it directs attention especially to Section 4 of the proposed bill, which provides for an inspection that shall be under the direct control of a Justice of the Supreme Court, who, at his discretion, may appoint a suitable person or persons to investigate any alleged violation of the law. The person or persons thus appointed by the Justice of the Supreme Court, shall, during the period named by the Court, have the unrestricted right at all times on exhibition of the certified copy of the order of the Judge, to enter the place or places named therein and to investigate any supposed violations of the provisions of this law. They believe such a provision to be a sufficient guarantee that the inspection would be conducted so as not unnecessarily to embarrass legitimate scientific work. The bill is entitled: "An Act to prevent cruelty, by regulating experiments on living animals." The gentlemen who have signed the above letter have carefully considered all the possibilities of the question at issue and are most earnest in their efforts to defeat the bill, and it is the duty of all the members of the Medical Society of the State of New York to lend their aid against the bill. Those interested in the subject should hear the side presented by the Committee of the State Society before sanctioning the efforts of the Society for the Prevention of Abuse in Animal Experimentation.

## A COUNTRY HOME FOR THE ASSOCIATED PHYSICIANS OF LONG ISLAND.

IN his inaugural address, the President of the Society, Dr. H. B. Delatour, advocated a permanent country home for the Association. During the past year the Committee



time was appointed to investigate the possibilities of the proposition has visited various places on the Island, some of which may be suitable for the purpose. The Committee has deemed it advisable to get an expression of opinion from all the members of the Association as to their support of the plan. The idea is to secure, if possible, a tract of land of suitable size, easy of access, and, if possible, with a water-front with suitable facilities for bathing, sailing and fishing; on the property there would also be a club-house of moderate proportions containing several sleeping-rooms for the use of members, and provision would also be made for the furnishing of meals to the members. It is impossible to go further with the scheme without providing funds for the project, and the Committee have proposed, first, a general assessment of a small amount on each member each year for three years; second, to establish a holding company with the issuance of certificates of stock. In order to determine the feeling of the members of the Association upon this scheme, a letter has been circulated among the members asking the following questions:

1. Do you favor the project of establishing a country home for the Associated Physicians of Long Island?

2. Would you be in favor of a general assessment on all members of the Association?

3. Do you favor the issuance of certificates of stock with the formation of a holding company?

The Committee ask that these questions be answered as promptly as pos-

sible so that they may be in a position to carry on their work more intelligently.

### THE EMMANUEL MOVEMENT.

THE newspapers, during the past few months, have a number of times published reports of the workings of the Emmanuel movement in Brooklyn, and on occasions have stated that certain physicians were associated in the work. These statements have been accepted by the public, and the result has been considerable annoyance to those who were misquoted in connection with it, as in almost every instance these reports have been unfounded. The following letter was received by the editor a few days ago:

23 Schermerhorn St.,  
Brooklyn, N. Y.

EDITOR LONG ISLAND MEDICAL JOURNAL.

*Dear Doctor:* Several months ago many of the New York and Brooklyn daily papers published as a news item an account of work being done at a certain church, under the "Emmanuel Movement." This report represented me as associated with the pastor of the church in this work and gave details which made me take part in clinics held regularly at the church for the treatment of the sick. While I was annoyed by this report, I thought it could not be taken seriously by my friends. But there seems to be an impression that I am identified with this movement, as I am still not infrequently asked by medical men about my connection with the work.

I should like to publish a plain statement, without attempting any explanation to account for the extraordinary imagination of a newspaper reporter:

At the time this report was published I had given no serious thought to the subject and had formed no critical opinion, either for or against it; I have never been inside this church, and at the time the article was published, did not even know its location; and that I have never discussed the "Emmanuel Movement" with anyone except a few personal friends.

Yours very truly,  
WILLIAM SIMMONS.

December 21, 1908.



## MEDICAL NEWS.

**Delegates to the State Society from King's County**—The following delegates to the Medical Society for the State of New York were nominated at the last meeting of the Society to serve for two years:

Twelve delegates to the Medical Society of the State of New York for two years (1909-1910)—C. B. Bacon, E. H. Bartley, J. Eddy Blake, A. T. Bristow, W. F. Campbell, J. W. Fleming, R. S. Fowler, L. S. Pilcher, Geo. McNaughton, J. C. Rushmore, W. S. Simmons, J. P. Warbasse.

Twenty-three alternate delegates for one year—Alfred Bell, W. C. Braislin, W. B. Brinsmade, Wm. Browning, E. H. Fiske, N. P. Geis, F. C. Holden, A. C. Howe, F. H. Knight, J. A. Longmore, E. H. Mayne, J. P. Pendleton, W. P. Pool, Alexander Rae, N. P. Rathbun, V. A. Robertson, R. M. Rome, W. S. Shattuck, A. M. Judd, C. H. Watson, James Watt, J. Scott Wood, W. C. Woolsey.

For four delegates to the Second District Branch for two years (1909-1910)—C. N. Cox, J. A. Lee, W. A. Sherwood, J. B. Thomas.

**Army Medical Corps**—The new organization designated as "The Army Medical Reserve Corps," has met with an enthusiastic reception from the members of the medical profession. It is part of the plan of the War Department to create in time of peace an organization of the foremost medical men of the country, who, in the event of war would be organized and ready to put the medical arm of the service in the highest possible condition for efficient work in the field. Among the medical men who have received commissions from the War Department are Dr. Roswell Park, Dr. Wyeth, Dr. Bryant, Dr. Souchon, of New Orleans, Dr. Frank Billings, of Chicago, Drs. Abbe, Weir, Kinnicutt, Dennis, Beck, Thompson, Morris, Armstrong, Lloyd, Lambert, Flexner, Coley, and many other prominent New York surgeons. There are many others, equally well known, who have received commissions in this new organization.

**Delay in the Construction of the Department of Health Building in Brooklyn**—Considerable feeling has been aroused among the physicians of the Borough of Brooklyn by the repeated delays in the construction of this new building in Brooklyn; not only has all work been suspended, but there is no prospect of its ever being resumed. The Deputy Commissioner of Health has also ceased to exist in Brooklyn. The question is being actively discussed in the medical societies of the Borough, and definite action has been taken.

**An English-Chinese Lexicon of Medical Terms**, prepared by Dr. PHILIP B. COUSLAND, has just been published in Shanghai. Though the author is an Englishman by birth, he has based his book largely upon the Medical Dictionary of Dr. GEORGE M. GOULD, of Philadelphia, a high compliment to American scholarship. Dr. COUSLAND has recently published a translation of Prof. HALLIBURTON'S edition of Kirkes' Physiology.

**Norwegian Hospital Association**—The ninety-ninth regular meeting of The Norwegian Hospital Alumni Association was held at the residence of Dr. Arthur Longstreet on December 9. Dr. Robert E. Coughlin was elected President; Dr. John H. Ohly Vice-President and Dr. Louis Stork Secretary and Treasurer. The hundredth meeting of the Association will be held in January at the home of Dr. Sewell Matheson. It will be celebrated in a manner fitting to the occasion.

**The Clinical Society of the Jewish Hospital** held a meeting on Friday evening, December 11th, at which the following programme was given: A Case of Septic Nephritis, by Dr. J. Londoner; A Case of Rupture of the Uterus, by Dr. A. Bonner; A Case of Vaginal Cæsarean Section at Full Term, by Dr. R. M. Beach; A Case of Adeno-carcinoma of the Stomach, by Dr. W. L. Duffield; A Case of Intra-abdominal Strangulated Hernia, by Dr. G. I. Miller; A Case of Intes-



tinal Obstruction, by Dr. Wm. Linder.

**Declaration of Infectious Diseases**—Section XXIV of the Public Health Law, as amended by Chapter 396 of the Laws of 1908, contains the following provision:

Every physician shall immediately give notice of every case of infectious and contagious or communicable disease required by the State Department of Health to be reported to it to the Health Officer of the city, town or village where such disease occurs. The diseases to be thus reported promptly are: Pulmonary or laryngeal tuberculosis, diphtheria, including croup, scarlet fever, measles, typhoid fever, cerebro-spinal meningitis, smallpox, ophthalmia neonatorum, Asiatic cholera, yellow fever, typhus fever.

**Free Examination of Sputum in Suspected Tuberculosis**—Section II of Chapter 351, Laws of 1908, requires local health officers to make and to report the results of microscopical examinations of samples of sputum forwarded to them by physicians when the same are accompanied by blanks giving the name, age, sex, color, occupation, place where patient was last employed, and address of patient. The State Department of Health announces that it is prepared to have examinations made, the only conditions being that the specimens shall be forwarded to Albany in containers designated or supplied by the Department.

**National Red Cross Stamps**—The Christmas season has been marked by the sale of stamps issued by the National Red Cross, the proceeds to be applied to the work in the State against tuberculosis. The scheme has met with a great deal of success.

**Williamsburgh Hospital** — The rapid growth of the Williamsburgh Hospital is attested by its latest report. In the past six years it has increased from an institution of thirty beds to one of nearly one hundred beds. During the past year 1,262 patients were treated in the hospital. The fourth annual musicale and dance will be given at the Pouch Mansion

on Tuesday, January 12, 1909, under the patronage of the Woman's Auxiliary, for the purpose of raising funds for the hospital.

**Illinois State Board of Health Fighting for Vaccination**—The question of compulsory vaccination is being discussed in the state of Illinois, and in the recent report of the State Board of Health a number of remarkable photographs are shown which illustrate most graphically the results of vaccination and the dangers to those who are not. The accompanying cut is a reproduction of one of the photographs illustrating the work of the State Board of Health, and will no doubt accomplish much in convincing those who are opposed to the law; it shows the effect of the disease in the one case, and the immunity from it in the other.

## PERSONALS.

**Dr. Frederick L. Benton**, Surgeon, U. S. N., Regimental Surgeon of the Marines in Cuba, and a member of the Society, has been awarded the Congressional medals for services rendered in the Chinese Relief Expedition of 1900 and in the campaign in the Philippines, 1899-1904.

**Dr. Charles I. Stone** has been appointed attending anesthetist to the Methodist Episcopal Hospital, and Dr. W. H. Wallace attending radiographer to the same institution.

**Dr. A. Redmond Dimock** announces that after January first he will have his office with Dr. Judd at 375 Grand Avenue, Brooklyn, where he will continue to confine his practice exclusively to diseases of the eye.

**Dr. John Ketterle** announces his removal to 1428 Greene Avenue, Brooklyn. Telephone, 300 Bushwick.

**Dr. Edmund Darbois** announces his removal to 425 Fifty-eighth Street, Brooklyn. Telephone, 1825 Bay Ridge.

**Dr. Joshua Ronsheim** announces that he has opened his office at 1282 Jefferson Avenue, Brooklyn. Telephone, 2624 Bushwick.





FIGURE ILLUSTRATING THE REPORT OF THE ILLINOIS STATE DEPARTMENT OF HEALTH.  
SHOWING TWO CHILDREN WHO HAVE BEEN VACCINATED AND ONE WHO HAS NOT.



**Death of Dr. Frank R. Baker—**One of the most shocking accidents of the past month was that which occurred to Dr. Baker. While trying to remove a tightly-wedged screen from a window he slipped and fell from the fourth story to the basement. His death followed almost instantly.

**Death of Dr. McCosh—**Early in December Dr. Andrew J. McCosh, who was well known in this city, was thrown from his carriage and sustained a fracture of the base of the skull. He lingered for a few days, but succumbed finally to edema of the lungs. There was no effort at operative interference. Dr. McCosh

was the son of Dr. James McCosh, well known as an educator and, later, as President of Princeton University. Dr. McCosh graduated at Princeton in 1877 and took both his A.B. and A.M. degrees. In 1880 he received the degree of M.D. from the College of Physicians and Surgeons in New York City. His next two years were spent at the University of Vienna. For nineteen years he had been surgeon to the Presbyterian Hospital, where he died. He was also Professor of Clinical Surgery in Columbia, and was a member of many of the prominent medical societies. He was but fifty years old at the time of his death.

## TRANSACTIONS OF THE BROOKLYN SURGICAL SOCIETY

*Regular Meeting, June 9, 1908.*

The President, A. H. BOGART, M.D., in the chair.

### OCCLUSION OF THE MESENTERIC VESSELS.

A paper with the above title was read by E. A. PARKER, M.D.

### MELANOTIC SARCOMA OF CHOROID.

DR. W. M. FRIEND, speaking of the microscopic slide on exhibition, stated that the growth was in the anterior portion of the choroid, and that a transverse vertical section had been made a little in front of the growth.

The symptoms were noticed only about two months before the eye was removed. Dimness of vision was the only complaint made, with no pain or tension of the globe. Only a week before the eye was removed was dimness of vision more particularly marked, and then only by accident did the patient find that she was blind in the left eye. The diagnosis was easily made both by direct and indirect illumination, and also with the use of Woodman's transilluminator, which showed a shadow of the growth through the pupil, and by that means they were able to estimate very approximately

the size of the growth, which was confirmed on the post-mortem.

A section was made from the posterior portion of the growth and illustrates well a small round celled sarcoma.

### INFECTIOUS GRANULOMA.

DR. C. P. GILDERSLEEVE said this patient came under his observation December 17th. At that time he had a big, fluctuating mass in the small of the back. This he incised and curetted, but it did not heal up. It healed to a certain point when the same process re-developed. He then gave the patient ether and cauterized again with acid nitrate of mercury, and that was followed by union. A short time afterward the man developed another small mass a little higher up. After a while that softened down and was scraped and touched with acid nitrate of mercury and that healed up. Since then the patient has been developing one after another until there are now the marks of seven or eight. The speaker curetted each thoroughly, but they would



not heal up until burned out by acid nitrate of mercury. There are now two or three not completely closed, and in the groin a mass is developing which is typical of all the others.

The speaker thought at first that they were tubercular, and then that they might be specific, and finally that it might possibly be sarcoma. Dr. Murray made two or three examinations and reported that they were infectious granuloma.

#### POST-OPERATIVE MALARIAL FEVER.

DR. CHARLES H. GOODRICH reported the following case: During a perineorrhaphy for a nearly complete laceration of six years standing, my anesthetist was taken unawares and the patient vomited vigorously. At that precise moment I was engaged in separating the mucous membrane of the vagina from the rectum, all of the muscular structures having been severed at the time of labor. When she vomited my index finger was projected into the cavity or the rectum. Then followed careful cleansing first with bi-chloride irrigation, then thorough drying with gauze sponges. Several fine sutures of chromic cat-gut, not including mucous membrane, closed the rectum, and the perineorrhaphy proceeded in the usual manner.

On the following day the patient's temperature rose to 101 deg. F., pulse 106. On the second day the pulse reached 112 and the temperature 102.6 deg. F. On the third day the temperature was increased to 103.6 deg., pulse 120, and the perineum was somewhat tender. Concluding that the sutures must be removed within twenty-four hours I felt that it would be of interest to study the leucocytosis in such a case, and so without any expectation of the report which followed, I ordered a blood examination. The plasmodia of Aestivo-autumnal malaria were found in great numbers. Quinine was generously administered. The fever disappeared promptly and she to-day shows an ideal result following perineorrhaphy.

#### PRIMARY ADYNAMIC INTESTINAL OBSTRUCTION.

DR. C. H. GOODRICH reported the following case: Mr. T. gave history of gastric disturbances for the past twenty years. For three months had suffered with anorexia, nausea, obstinate constipation, and marked loss of flesh and strength. Had chronic nephritis (interstitial) moderate in degree. Notwithstanding advice he persisted in attending business which required much traveling. Was first seen in present attack by Dr. R. F. Bliss during the early morning hours of April 26, 1908, when he presented all typical symptoms and signs of acute obstruction. Bowels had not moved for six hours. I first saw him at 10.30 A. M. of the same day and corroborated Dr. Bliss's diagnosis. It seemed, taking history, symptoms, and signs together as though we were dealing with a malignant growth of some months standing causing acute obstruction after the usual manner. Abdominal section (median) was performed at 3 P. M. Tremendously distended descending colon presented at the wound, about five inches in diameter. This was punctured and twenty-eight ounces of feces and much gas was evacuated. No point of mechanical constriction could be found between second portion of rectum and the cardiac end of the stomach. The colon was most distended, the ileum less dilated, the jejunum moderately except at its upper fifth where it was *completely collapsed*. The stomach was considerably distended and was cleared of its contents by lavage before the patient left the operating table. The only logical procedure seemed to be one which would insure the emptying of the intestines. I removed the appendix with the idea of using its point of attachment to cæcum as a drainage opening but the meso-cæcum was so short that this was impracticable. A 5/8-inch rubber tube was sutured into cæcum after Kader's method and cæcum attached to the lower angle of abdominal wound. The



operation was well borne. The efforts to clear out the colon at frequent intervals were successful and most of the nourishment taken for five days was retained. Continued loss of strength and weakening of heart action, however, showed us that our opportunity had come to us when the patient was depleted of reactive power. He died on the evening of the seventh day. No abdominal distention or rigidity existed for the last four days of his life.

#### **RUPTURE OF EXTENSOR MUSCLES OF FOREARM.**

DR. H. B. DELATOUR said this patient was on an elevator coming up to the sidewalk, and got his arm caught between the elevator and the sidewalk. When brought into the hospital he had a superficial wound about the elbow. The speaker did not see him until two or three days afterward; the house staff had been looking after the wound when they discovered that there was a swelling on the back of the hand. On examining it they found a swelling which extended from just above the wrist down on the back of the hand almost to the knuckles. It was not tender around the swelling and it was a question as to what it was.

On investigation it was found that the power of extension was entirely gone, and the doctor thought the blow which had caused the abrasion of the skin had caused a rupture of the muscles in the arm. The speaker made a short incision, exposing the tumor, and it proved to be the extensor muscles rolled over on themselves way down on the back of the hand. After unfolding them (they were somewhat united by adhesions—it was a week after the accident when this was discovered) the incision was extended to a point well above the middle of the forearm, where it was found the fibres had been torn. The muscle was sutured back in position by a catgut suture and the skin incision closed. The superficial ulceration about the wound did not involve

the muscle or tendons. Three months after the operation the patient has good use of the hand.

The points of interest in the case, said the speaker, are the ease with which the most important part of the injury was being overlooked—the wound on the arm was the part that attracted attention and was being treated, and it was more by accident than anything else that this condition below was discovered. Another peculiar thing was the retraction of the muscles down in the opposite direction to that which one would expect the muscles to contract.

#### **INVERSION OF THE UTERUS.**

DR. R. S. FOWLER, presenting a specimen, said that this uterus was removed two months after confinement, the labor being in charge of a midwife. The specimen showed complete inversion of the uterus, the ovaries and tubes drawn down with the inverted fundus. The case is doing nicely now. Previous to doing a hysterectomy he attempted to re-invert, but the parts were too fixed, two months having elapsed since the condition occurred.

#### **STRANGULATED INTERNAL HERNIA.**

DR. A. H. BOGART reported the following case: Loop of small intestine strangulated by passing through a rent in its own mesentery.

History. E. F., female, age 33. Was brought to the Seney Hospital with a history of having been kicked in the abdomen three days before. For two days she complained only of soreness of the abdomen, but on the third day began to suffer from intermittent pains and to vomit. On admission patient was still suffering from the severe intermittent abdominal pain and occasionally vomiting a dark brown material. Pulse and temperature normal. Examination revealed tenderness and rigidity all over the abdomen.

Diagnosis, intestinal obstruction.

Operation, resection of the strangulated loop, end to end anastomosis with a Murphy button.

Result, recovery.



# TRANSACTIONS

OF THE

## BROOKLYN GYNECOLOGICAL SOCIETY

*Stated Meeting, October 2, 1908.*

The President, F. J. SHOOP, M.D., in the Chair.

### SOME FOREIGN NOTES.

See page 20.

#### *Discussion.*

DR. C. JEWETT heard only the last of the speaker's notes with reference to the method of protecting the abdominal incision; he said that the technic mentioned was written up in some of our own journals recently. It does not protect against infection from skin germs, he thinks, as well as the Murphy rubber dam, or the so-called liquid rubber glove material both of which he had used extensively. None of these devices protects the wound against possible infection in taking out septic material from the cavity.

The Pfannenstiel incision he had not used, but had often practiced the Küstner's incision. He had been struck with the fact that the Küstner incisions heal better than other abdominal wounds. Indeed he did not remember to have had actual suppuration in any of them.

DR. J. C. MACEVITT stated that one point regarding operations by French surgeons which struck him forcibly, particularly at the Pean Hospital, was the custom of the operator in abdominal cases to drain both through the abdomen and the vagina when the slightest amount of pus was present. The abdominal drain was unnecessarily large and could not help but leave a weakened cicatrix. Of interest also was the observation that after removing the instruments from the trays, following an operation, alcohol was poured into the empty trays and ignited, a rapid and time-saving expedient for sterilization.

DR. R. L. DICKINSON said that his results with the Küstner incision, perhaps 50 cases, there was a larger percentage of suppuration than any

other median incision, and the pus is harder to get out if you have to open the wound. Women like it, he stated, because that little cross incision in the skin loses itself in the natural fold of the skin and makes the scar less unsightly.

### DIAGNOSIS OF DERMOID CYSTS.

A paper with the above title was read by Dr. John C. MacEvitt, for which see page 23.

#### *Discussion.*

DR. C. JEWETT thought the clinical diagnosis of ovarian dermoid cyst can very seldom be made. About the only signs that would even suggest dermoid cyst are the more or less globular shape and in rare instances an area of bony hardness. Rapid growth would not point to ovarian dermoid, but just the contrary. The rule is that they grow slowly. The same is true even more emphatically of pain and fever. They do not belong to the ordinary course of dermoid growths. Such conditions as Dr. MacEvitt had recounted would be very significant of twisted pedicle. With such a mass as that described in the second case diagnosis must be largely guess work.

DR. R. L. DICKINSON said one would think that the only way in which such a tumor could grow rapidly would be, as suggested, cutting off the circulation in the pedicle, and a rapid accumulation of watery fluid inside the sac itself. He had seen one such rapid growth in a dermoid, and there it seemed to him that the great edema was like that of any other twisted pedicle which accounted for the condition. There again necrotic areas were the cause of very troublesome and vascular adhesions in the neighborhood, but any such suffering as the doctor spoke of he had not seen.



At one time he supposed that the classical symptoms in the text-books, nodular, hard, rotund, mobile, were several reasons for supposing a tumor was a dermoid, but like those who had spoken he confessed that he did not know how to make the diagnosis of a dermoid. It is a guess, he stated. It is sometimes as hard as a fibroid, but fluid contents and its thick wall may give it the consistence that any other ovarian cyst may have. It is very rare that one can have any certainty about the matter at all. The diagnosis hangs between multilocular, relatively small intra-pelvic ovarian cyst and a dermoid.

The speaker stated that it was a great comfort to have the doctor determine, after his study, that it is not stupidity for one not to be able to recognize dermoids.

DR. H. C. KEENAN stated that he was very much interested in these two particular cases, because on a previous occasion he had made a positive diagnosis of dermoid on classical symptoms and found himself mistaken. This was the case of a small spherical tumor in front of the uterus with a history of repeated inflammation. These are the classical symptoms given by Kelly, and there are others in making a diagnosis of dermoid. Dr. MacEvitt at that time made a diagnosis of cyst with twisted pedicle, and the operation showed he was correct. This shows that a tumor even with classical symptoms does not turn out to be a dermoid.

In the case of the larger tumor in which the diagnosis of multilocular cyst was made—this was a very large cyst entirely filling the abdominal cavity. After the operation and the tumor was removed, he examined it carefully, and if he could not see how another diagnosis could be made except multilocular cyst, because it was multilocular. There was a small part of the cyst filled with fluid and another part fibrous.

DR. W. B. CHASE asked Dr. MacEvitt whether he had ever noticed that the abdomen was higher with dermoid than with other ovarian cysts which were not adherent. When he

found dermoids they were relatively higher in the abdominal cavity than other ovarian cysts.

DR. J. C. MACEVITT, concluding, said that from our readings we have all been led to infer that the presence of a dermoid cyst had a malign influence. Personally he did not believe they have any more malign influence than any other cyst or tumor that is covered by peritoneum. It is only after they are ruptured. Taken a tumor that we will believe to be ovarian, and as an ovarian tumor it will live a long life and cause no trouble, assume large proportions and not produce peritonitis, give but little pain, they go on increasing in size; patients come simply for the relief of the inconvenience and interference with respiration, not for the relief of pain and fever. In the future the difficulty will be to make the diagnosis between a dermoid and an ovarian cyst. If we will give it some attention, and find upon this tumor assuming rapid growth, with pain which means an inflammatory degeneration and probably breaking down of the sac, this process of suppurative degeneration will set up a peritonitis, and with that peritonitis we will have pain and fever and all the symptoms that go with it. This is the only symptom that will aid us in making a diagnosis of dermoid cyst.

Replying to a question as to how he would differentiate an ovarian cyst of this character from a plain ovarian cyst with a twisted pedicle, Dr. MacEvitt said that would not be difficult to make. As a rule, tumors with twisted pedicle are of small size, the pain in a twisted pedicle will come on quickly, and it will be continuous and very severe, whereas the pain he referred to does not exist until the inflammatory process reaches its maturity and it gradually produces these symptoms.

In these two cases after a search of the literature, he found no such case recorded. If a patient comes to us with a history of a tumor which exists for some time free from pain, and suddenly takes on rapid growth with pain on pressure, which increases, and



then a few days before the menstrual epoch that pain is exaggerated, is not that another symptom?

The speaker thought we ought at least to be able to make an inferential diagnosis.

## TRANSACTIONS

### OF THE

## BROOKLYN PATHOLOGICAL SOCIETY

Editor C. G. CRANE, M.D.

*Stated Meeting, June 11, 1908.*

The President, DR. RAYMOND CLARK, in the Chair.

The 486th Regular and the 41st Annual Meeting of the Brooklyn Pathological Society was held June 11, 1908, at the Library Building of the Medical Society of the County of Kings, 1313 Bedford Avenue.

The President, Dr. Raymond Clark, was in the Chair. The meeting was called to order and the minutes of the previous annual meeting were read and approved.

The *report of the Treasurer*, Dr. Henry C. Keenan, showed the funds of the society to be in a very healthy condition. The Treasurer's report was a very detailed record of the receipts and disbursements and showed a liberal balance in the treasury.

The President appointed as an auditing committee Drs. Westbrook, Kerr and McChesney. The committee reported that the Treasurer's accounts were found to be correct and recommended that the report be accepted as read. Dr. J. Eddy Blake moved that the report of the auditing committee be accepted. Dr. A. W. White seconded Dr. Blake's motion. The above motion was carried. Dr. Blake moved that a vote of thanks be tendered Dr. Keenan for his very painstaking and complete report. Seconded and carried.

The *report of the Secretary*, Dr. C. G. Crane, was a review of the scientific meetings held during the year 1907-1908 and a comparison of attendance, scientific work, general activity of the society and of the increase in membership during the years 1902 to 1908 inclusive. The report showed the year just closed to have been full of activity on the part of the individ-

ual members and a most gratifying one in every particular.

Dr. Richard W. Westbrook moved that a vote of thanks be tendered the Secretary for the complete report and for the work done during the year. Seconded and carried.

The following officers were unanimously elected for the ensuing year:

President, Dr. John Osborn Polak.

Vice-President, Dr. Edward E. Cornwall.

Secretary, Dr. Claude G. Crane.

Treasurer, Dr. Henry C. Keenan.

The resignation of Dr. Florence Leigh-Jones was accepted with regret.

On motion, duly seconded and carried, it was resolved that the matter of the printing of the revised constitution and by-laws be postponed until the next regular meeting.

Dr. Keenan moved that the Society contribute the sum of \$50 to the County Society in appreciation of the freedom of the Society's building during the year. Seconded and carried.

Dr. Keenan moved that the sum of \$10 be given to the janitor, Mr. Johnson, for the liberal services rendered the Society. Seconded and carried.

Dr. Keenan moved that the Society continue the subscription to the foreign medical journals in behalf of the Medical Society of the County of Kings. Seconded and carried.

There being no further business before the Society, on motion duly seconded and carried, the Society adjourned to a nearby restaurant where light refreshments were served.

C. G. CRANE, *Secretary*.  
119 Halsey Street.



## BOOK REVIEWS.

**Applied Surgical Anatomy.** By GEORGE WOOLSEY, A.B., M.D., Professor of Anatomy and Clinical Surgery in the Cornell Medical College. Surgeon to Bellevue Hospital, Associate Surgeon to the Presbyterian Hospital, Fellow of the American Surgical Association and of the New York Academy of Medicine. Second edition, with 200 illustrations including 59 plates, mostly colored. Lea & Febiger, New York and Philadelphia. 1908.

Six years ago the first edition of Dr. Woolsey's work on Surgical Anatomy appeared. His long experience in teaching anatomy and his added experience in surgery have fully qualified him to present the subject in text-book form. He believes the form of presentation that he has followed to be the best for didactic lectures, and that descriptive anatomy is most advantageously learned from text-books and in the dissecting room. The regional and topographical method of treating applied anatomy is likewise the most convenient for clinical purposes. Controlled by a mind devoted to surgery, the product must naturally appear as much like an anatomical surgery as a surgical anatomy. The author has amplified his sections on cerebral localization, cranio-cerebral topography, the abdominal viscera and the spinal cord. The volume has been enlarged by about eighty pages and its illustrations increased by seventy-five engravings. To those who are not conversant with the first edition, it may be well to explain his method of treatment of his subjects: Chapter I takes up the head and neck; chapter II, the upper extremities; III, the thorax; IV, the abdomen; V, the pelvis and perineum; VI, the lower extremities, and chapter VII, the spine. A good deal of stress is laid upon surface marking and landmarks and superficial topography. It is an interesting volume, and a working knowledge of the data contained is indispensable for the study and practice of scientific medicine and surgery.

**A Manual of Diseases of the Nose and Throat.** By CORNELIUS G. COAKLEY, M.D., Clinical Professor of Laryngology in the University and Bellevue Hospital Medical College, New York. New (4th) edition, 12mo, 604 pages, with 126 engravings and 7 colored plates. Lea & Febiger, Publishers, Philadelphia and New York. 1908.

The fourth edition of Coakley's Manual of Diseases of the Nose and Throat is presented, being revised and enlarged. It is nine years since the first edition of this work appeared, and the worth of the book has been firmly established. The subject of laryngology is not a difficult one to present because of the limits of the subject, but in order to understand it one must be educated in a clinic where numerous cases are examined and the student may become familiar with the methods of procedure as outlined in the book. There have been many changes in the treatment of nasal deformities, especially, but of late the pathology of the subject has been more clearly outlined and operative interference has met with a greater degree of success. The former articles on spurs and deflections of the septum are considered under a single head, Deformities of the Septum. The technique for radical operations for chronic diseases of the accessory sinuses has been more fully described. The author pays special attention to the practical side of examinations, diagnosis and treatment; in dealing with the subject of treatment he gives the full details for those who have not had the advantage of personal clinical instruction. A special chapter of considerable importance is that devoted to therapeutics and remedies for the local treatment of the nose, pharynx and larynx, in which are classified drugs according to their local actions, and a number of useful prescriptions, together with instructions for their employment. The book is a manual, and is not to be confused with the larger treatises on the subject.



**Diseases of the Skin and the Eruptive Fevers.** By JAY FRANK SCHAMBERG, M.D., Professor of Dermatology and Infectious Eruptive Diseases in the Philadelphia Polyclinic and College for Graduates in Medicine. Octavo of 534 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1908.

Few men are better qualified to present the subject of diseases of the skin and the eruptive fevers than one who has been a diagnostician to the Bureau of Health and Consulting Physician to a large public hospital. Dr. Schamberg has held these positions and is Professor of Dermatology in the Philadelphia Polyclinic and College for Graduates in Medicine in Philadelphia. His ideas have been founded upon the teachings of the old Vienna school, which associates the ordinary dermatoses with the rashes of the various eruptive fevers. The striking similarity between lesions of distinctly different origin is well known, and Professor Schamberg teaches that a thorough understanding of the physiology, pathology and subjective symptoms is necessary to the establishment of a diagnosis. In the present volume, the exanthemata are treated in a separate chapter and, owing to the improved methods of teaching, their diagnosis is given greater space than is usually given to them in books on skin diseases; that which relates to the skin manifestations is exhaustively treated. The usual and accidental eruptions which occur in the course of such diseases as typhoid fever, typhus fever, epidemic cerebro-spinal-meningitis, influenza, malaria, rheumatic fever, dengue, malarial fever, angina and tonsillitis, are also included. The illustrations are mostly original and, with few exceptions, are taken from actual photographs, no effort being made to represent the lesions in color. There are many new and interesting features in the book that it is impossible to bring out in a review, and the author is to be congratulated on presenting the subject thoroughly in a small volume.

**A Treatise on the Principles and Practice of Gynecology.** By E. C. DUDLEY, A.M., M.D., Professor of Gynecology in the Northwestern University Medical School, Chicago. Fifth edition, thoroughly revised. Octavo, 806 pages, with 431 illustrations, of which 75 are in colors, and 20 full-page colored plates. Lea & Febiger, Publishers, Philadelphia and New York. 1908.

Dr. Dudley is Professor of Gynecology at the Northeastern University Medical School. His book is now presented in its fifth edition, and his work has been so thoroughly reviewed that one pre-supposes a knowledge of the familiar editions. The subject has been divided so that the various diseases are grouped in pathological and etiological sequence; for example, infections and inflammations are brought together, so that vulvo-vaginitis, metritis, salpingitis, ovaritis, peritonitis, and cellulitis may be studied together. Part I deals with the general principles of gynecology. Part II, with infections, inflammations and allied disorders. Part III, with tumors, tubal pregnancy, and malformations. Part IV, with traumatism. Part V, displacements of the uterus and other pelvic organs. Part VI, disorders of menstruation, sterility and incontinence of urine. The text of his work has been revised and brought up to date. The following chapters have been more especially revised: the chapters on the treatment of salpingitis, ovaritis, pelvic peritonitis, myoma-uteri, carcinoma-uteri, descent of the uterus, retroversion and retroflexion. The book is profusely and well illustrated, and deserves the continued success which the former editions have met with.

#### **New Edition of Gray's Anatomy.**

This new edition is the result of a thorough revision begun two years ago. In this work Professors J. Chalmers Da Costa and Edward Anthony Spitzka, who occupy, respectively, the chairs of Surgery and of Anatomy in



the Jefferson Medical College of Philadelphia, have been associated. Dr. Spitzka unites the qualifications of an anatomist of the first rank with those of an artist as well, a rare combination of powers, hence his delineations convey directly to the reader's eye his own exact knowledge of structure. He has rewritten what has heretofore been the most complex and difficult portion of anatomy, the Nerve System, illustrating it with seventy of his own drawings, so that that subject of recently revolutionized development is at once brought to date and simplified. Every other page has been scanned to reflect the latest knowledge.

Henry Gray died young, but left behind him this imperishable evidence of his consummate knowledge of human structure and of the best methods of imparting it to others.

The great series of "Gray" engravings has always been unique in this essential point of teaching quality. They enable the eye and mind to co-operate, thus focussing the whole of the reader's power on the subject before him. These graphic demonstrations simultaneously convey the terminology of anatomy by reason of the fact that the names of the parts are engraved directly upon them, whereby the nomenclature and also the position, extent and relations of each part are unconsciously and indelibly fixed in the memory. These are the four cardinal points to know about any structure, and they are conveyed by a method unique in "Gray," and one that is as simple as it is effective. Colors are abundantly used to show muscle-attachments, veins, arteries, lymphatics and nerves.

**Medical Gynecology.** By S. WYLLIS BANDLER, M.D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Octavo of 675 pages, with 135 original illustrations. Philadelphia and London: W. B. Saunders Company, 1908.

There have been several books published on this subject but none of them seem to have left any lasting impression, at least there is none that is at

present generally recognized. In the present volume the author has attempted to bring before the profession a work which deals only with the conditions of the female reproductive organs in the light of what may be done medically to relieve morbid conditions there. Various topics which he discusses he has viewed from the standpoint of the symptoms, the disease, the bi-manual and microscopic findings and the general physical and nervous state; this gives the reader a fairly comprehensive picture from which may be deduced logical and co-ordinated conclusions. In the treatment of many of the conditions it is noted that the author tends merely to indicate what it is, and in many instances this is rather indefinitely stated. It is interesting to note that in the discussion of the various methods employed in the medical treatment, a large section is devoted to the application of the Nauheim baths. The work covers the subject fairly systematically; the first one hundred and twenty-two pages being devoted to the consideration of the gynecological examination and to the general methods which may be employed in various treatments. From here on, the author considers the various conditions which may be found. The section on the associated nervous conditions gives one a fair idea of those which find their origin in morbid conditions in this region. Constipation and gonorrhea are particularly well covered. It is to be noted in general that throughout the book there is a certain indefiniteness which results in the fact that a practitioner who wishes to find a certain subject in its full consideration has to look in several different places for his information; and also that in many instances the important facts are not distinctly separated from the unimportant ones. The book is not, as one might expect, illustrated very profusely, most of those that we do notice are merely diagrams; the exception to those is found, however, in the consideration of chorioepithelioma, where we find several illustrations of microscopic ex-



aminations which are very instructive. The book is well bound and very legible.

JAMES T. PILCHER.

**Diseases of the Heart.** By Prof. TH. VON JURGENSEN, of Tübingen; Prof. Dr. L. KREHL, of Greifswald, and Prof. Dr. L. VON SCHROTTER, of Vienna. Edited, with additions, by George Dock, M.D., Professor of Medicine, University of Michigan, Ann Arbor. Octavo of 848 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, \$5, net; half morocco, \$6, net.

Nothnagel's Encyclopedia of Practical Medicine is being translated from the German under the supervision of Alfred Stengel, Professor of Clinical Medicine in the University of Pennsylvania. Each volume is edited, with additions, by some well-known American or English physician. The volume on typhoid and typhus fevers was edited by William Osler. Sarah J. W. Moore edited the volume on smallpox, varicella, cholera, erysipelas, whooping cough, and lung fever; while diphtheria, measles, scarlet fever and rotheln are presented by William B. Northrup, of New York. Inflammations of the lungs, bronchi and pleura have been supervised by J. H. Musser. Pancreas, supra-renals and liver by Fitz and Packard. Diseases of the stomach by Stockton. Diseases of the intestines and peritoneum by H. D. Rolleston, of London. Tuberculosis and acute general miliary tuberculosis by Walter T. James, of New York. Diseases of the bladder by Walter Stengel. Diseases of the kidneys, spleen and hemorrhagic diathesis by James B. Herrick, of Rush Medical College. The present volume, Diseases of the Heart, is edited, with additions by Dr. George Dock, who has been for many years Professor of Theory and Practice of Medicine and Clinical Medicine at the University of Michigan at Ann Arbor. The original volume is the work of Professor Th. von Jurgensen, of Tübingen; Professor L. von Schrötter, of Vienna and Professor L. Krehl,

Greifswald. The excellence of this series of works has long been recognized, and yet they have been denied the English-speaking countries excepting to those who understand the German language. Several works upon diseases of the heart have been published during the last few years in Germany, but very few of them have been translated into English, and the appearance of this volume will be especially acceptable to all internists. The ideas and theories of many of the German internists are somewhat different from those of our own countrymen and can not be accepted without considerable thought and study. Professor Jurgensen presents, first, chapters on insufficiency of the heart; second, endocarditis; and third, valvular disease. Each of these subjects is taken up in a systematic way and usually with a scientific discussion. Professor Krehl discusses diseases of the myocardium, and nervous diseases of the heart; his subject covers over three hundred pages and embraces a series of most interesting functional and organic diseases of the heart. Professor Schrötter discusses the diseases of the pericardium. The volume contains one of the best considerations of the subject of diseases of the heart that has yet appeared.

**The Ready-Reference Hand-Book of Diseases of the Skin.** By GEORGE THOMAS JACKSON, M.D., Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York. Sixth edition. 12mo., 737 pages, with 99 engravings and 4 plates, in colors and monochrome. Cloth, \$3.00 net. Lea & Febiger, publishers, Philadelphia and New York, 1908.

This work is now in its sixth edition and shows a revision of the entire book, with the addition of considerable new matter. New articles have been added upon black-tongue, dermatitis varicosa or vegetans, keratosis follicularis contagiosa, keratosis senilis, lichen obtusus, melung pseudo pelade and sporotrichosis hypodermica. The old sections on pathology have been revised and new ones ad-



ded by Dr. S. I. Rainsforth. New photographs have been taken from original cases. Since the previous edition of this work its author has been elected to the full Chair of Dermatology of the College of Physicians and Surgeons of New York. The book lacks an index of chapters, which, really, is not important. Part I treats of anatomy, physiology, general diagnosis and therapeusis, giving slight space to the subject of classification. The subject of skin diseases is then taken up alphabetically, which makes the book one of ready reference. Each disease receives full consideration and special attention is given to the section on treatment. There are many formulæ and there is added an appendix which contains all the formulæ for internal and external use that the general practitioner will find use for. The book is well established and its revision is welcome.

**Syphilis:** A Treatise for Practitioners. By EDWARD L. KEYES, Jr., M.D. 577 pages; 69 illustrations; 9 plates. New York and London: D. Appleton & Co., 1908.

Dr. Keyes states that the present treatise is based upon the study of 2,500 cases which have been treated and carefully observed by his father and himself during a period of over forty years. There are many interesting questions which arise in the course of the book, especially in relation to the new theories since the discovery by Schaudinn of the *spirocheta pallida*. This discovery opens up a

new era of syphilology and gives hope for a complete mastery of the disease. It is difficult to-day to define what constitutes good treatment in a case of syphilis, and the presentation and tabulation of this vast number of cases will give a very clear conception of the vagaries of the disease and of the impossibility of following out a single line of treatment in all cases. The author is not certain that the spirocheta pallida is the cause of syphilis, but it may be one phase in the life cycle of some micro-organism which is the cause of syphilis. The results of experimental inoculation in the lower animals are adding constantly to our knowledge of the disease, but there are many things about syphilis that are not absolutely determined; for example, it can not yet be accepted that syphilitic secretions cease to be infectious after twelve to twenty-four hours. The author states that the only personal prophylaxis against syphilitic infection lies not in cauterization or excision, but in inunction with a strong mercurial ointment within one hour of inoculation. He also adds that perhaps as late as six hours the remedy might still be efficacious. This is a most important statement; but the writer adds that nothing is certain in syphilis except its uncertainty. The book aims to cover the entire field of syphilis, and does so in a very satisfactory manner, and the book may be recommended to all those who are interested in the subject.



aminations which are very instructive. The book is well bound and very legible.

JAMES T. PILCHER.

**Diseases of the Heart.** By Prof. TH. VON JURGENSEN, of Tübingen; Prof. Dr. L. KREHL, of Greifswald, and Prof. Dr. L. VON SCHROTTER, of Vienna. Edited, with additions, by George Dock, M.D., Professor of Medicine, University of Michigan, Ann Arbor. Octavo of 848 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, \$5, net; half morocco, \$6, net.

Nothnagel's Encyclopedia of Practical Medicine is being translated from the German under the supervision of Alfred Stengel, Professor of Clinical Medicine in the University of Pennsylvania. Each volume is edited, with additions, by some well-known American or English physician. The volume on typhoid and typhus fevers was edited by William Osler. Sarah J. W. Moore edited the volume on smallpox, varicella, cholera, erysipelas, whooping cough, and lung fever; while diphtheria, measles, scarlet fever and rotheln are presented by William B. Northrup, of New York. Inflammations of the lungs, bronchi and pleura have been supervised by J. H. Musser. Pancreas, supra-renals and liver by Fitz and Packard. Diseases of the stomach by Stockton. Diseases of the intestines and peritoneum by H. D. Rolleston, of London. Tuberculosis and acute general miliary tuberculosis by Walter T. James, of New York. Diseases of the bladder by Walter Stengel. Diseases of the kidneys, spleen and hemorrhagic diathesis by James B. Herrick, of Rush Medical College. The present volume, Diseases of the Heart, is edited, with additions by Dr. George Dock, who has been for many years Professor of Theory and Practice of Medicine and Clinical Medicine at the University of Michigan at Ann Arbor. The original volume is the work of Professor Th. von Jurgensen, of Tübingen; Professor L. von Schrötter, of Vienna and Professor L. Krehl,

Greifswald. The excellence of this series of works has long been recognized, and yet they have been denied the English-speaking countries excepting to those who understand the German language. Several works upon diseases of the heart have been published during the last few years in Germany, but very few of them have been translated into English, and the appearance of this volume will be especially acceptable to all internists. The ideas and theories of many of the German internists are somewhat different from those of our own countrymen and can not be accepted without considerable thought and study. Professor Jurgensen presents, first, chapters on insufficiency of the heart; second, endocarditis; and third, valvular disease. Each of these subjects is taken up in a systematic way and usually with a scientific discussion. Professor Krehl discusses diseases of the myocardium, and nervous diseases of the heart; his subject covers over three hundred pages and embraces a series of most interesting functional and organic diseases of the heart. Professor Schrötter discusses the diseases of the pericardium. The volume contains one of the best considerations of the subject of diseases of the heart that has yet appeared.

**The Ready-Reference Hand-Book of Diseases of the Skin.** By GEORGE THOMAS JACKSON, M.D., Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York. Sixth edition. 12mo., 737 pages, with 99 engravings and 4 plates, in colors and monochrome. Cloth, \$3.00 net. Lea & Febiger, publishers, Philadelphia and New York, 1908.

This work is now in its sixth edition and shows a revision of the entire book, with the addition of considerable new matter. New articles have been added upon black-tongue, dermatitis varicosa or vegetans, keratosis follicularis contagiosa, keratosis senilis, lichen obtusus, melung pseudo pelade and sporotrichosis hypodermica. The old sections on pathology have been revised and new ones ad-



ded by Dr. S. I. Rainsforth. New photographs have been taken from original cases. Since the previous edition of this work its author has been elected to the full Chair of Dermatology of the College of Physicians and Surgeons of New York. The book lacks an index of chapters, which, really, is not important. Part I treats of anatomy, physiology, general diagnosis and therapeutics, giving slight space to the subject of classification. The subject of skin diseases is then taken up alphabetically, which makes the book one of ready reference. Each disease receives full consideration and special attention is given to the section on treatment. There are many formulæ and there is added an appendix which contains all the formulæ for internal and external use that the general practitioner will find use for. The book is well established and its revision is welcome.

**Syphilis:** A Treatise for Practitioners. By EDWARD L. KEYES, Jr., M.D. 577 pages; 69 illustrations; 9 plates. New York and London: D. Appleton & Co., 1908.

Dr. Keyes states that the present treatise is based upon the study of 2,500 cases which have been treated and carefully observed by his father and himself during a period of over forty years. There are many interesting questions which arise in the course of the book, especially in relation to the new theories since the discovery by Schaudinn of the *spirocheta pallida*. This discovery opens up a

new era of syphilology and gives hope for a complete mastery of the disease. It is difficult to-day to define what constitutes good treatment in a case of syphilis, and the presentation and tabulation of this vast number of cases will give a very clear conception of the vagaries of the disease and of the impossibility of following out a single line of treatment in all cases. The author is not certain that the spirocheta pallida is the cause of syphilis, but it may be one phase in the life cycle of some micro-organism which is the cause of syphilis. The results of experimental inoculation in the lower animals are adding constantly to our knowledge of the disease, but there are many things about syphilis that are not absolutely determined; for example, it can not yet be accepted that syphilitic secretions cease to be infectious after twelve to twenty-four hours. The author states that the only personal prophylaxis against syphilitic infection lies not in cauterization or excision, but in inunction with a strong mercurial ointment within one hour of inoculation. He also adds that perhaps as late as six hours the remedy might still be efficacious. This is a most important statement; but the writer adds that nothing is certain in syphilis except its uncertainty. The book aims to cover the entire field of syphilis, and does so in a very satisfactory manner, and the book may be recommended to all those who are interested in the subject.



# LONG ISLAND MEDICAL JOURNAL

VOL. III

FEBRUARY, 1909

No. 2

## THE IMPORTANCE OF THE X-RAY IN THE TREATMENT OF FRACTURES.

By JAMES P. WARBASSE, M.D.

Surgeon to the German Hospital and to the Seney M. E. Hospital.  
BROOKLYN-NEW YORK.

THE X-ray has long been esteemed as an aid in the diagnosis of fractures; but its importance has become so great and its use turned to such practical ends that we must think of it as an aid in the treatment of fractures as well as a help in diagnosis. At the time of the advent of the X-ray the diagnosis and treatment of simple fractures was making but little advance. Since the introduction of the X-ray more progress has been made in the treatment of these fractures than had been accomplished in a hundred years before. We were once wont to think that by palpation, mensuration, and imagination we could divine the character of a fracture and the relations of the fragments, but we now know that we are often mistaken. We often spoke of perfect reposition when the reposition was far from perfect. We secured good functional results, and assumed that our diagnoses were correct. Now with the light of the X-ray thrown upon the subject we find that a perfect reposition in fractures of the long bones is not often obtained; but still perfect restoration of function is the rule.

These facts teach several lessons. In the first place, we have learned that manipulating a fracture through its covering of skin, muscles, fascia, nerves, and vessels, makes the operation an obscure one, and that we should not have in mind the reducing

a fracture in the living body in the same sense that we think of fitting together the broken fragments of a bone outside of the body or as we think of joining together the ends of a broken stick. The conditions are so utterly different that they are scarcely comparable. Still we have always made the public think that they are about the same thing. A patient with a broken leg gets a good functional result, and he thinks the reason that he has good use of his leg is because a perfect piece of joining was done; still if he had been allowed to see an X-ray picture of the position of the fragments before consolidation had taken place he would have been filled with misgivings as to the outcome. The best results, of course, demand accurate reposition of fragments; but restoration of function, to all appearances as good as normal, is usually accomplished without securing perfect reposition.

We demand of the carpenter that he join two fragments of wood with mathematical accuracy; but that is because it is dead material which he has plainly exposed to view and in the manipulation of which he encounters no obstacles. But suppose that we give him a piece of stick which is enclosed in the middle of a coat sleeve filled with rubber elastic attached to its whole circumference, he would declare a good job to be im-





FIG. 1—Transverse fracture of femur in child, aged 8. This fracture required 50 pounds of traction combined with anesthesia to overcome the overriding. In the adult this is a rare fracture; and in a strong man it is practically incorrigible without operation.



FIG. 4—Fracture of the upper end of the radius, presumably well corrected, but actually in bad position.





FIG. 2—Longitudinal fracture of lower end of radius. Ligaments intact. Undiagnosable except by means of the X-ray.



FIG. 3—H. W., 121107. Fracture of fibula by direct violence. Presumed to be in good position. This separation could only be discovered by the X-ray. The outward displacement of the lower fragment can be corrected by eversion of the foot and a little pressure. The inward displacement of the upper fragment is incorrigible except by operation.



possible. Yet this approximates the condition present in fractures of the shaft of the humerus or femur. It is a common experience, when we have put up a fracture of the humerus, and think that it is in satisfactory apposition, and have the X-ray show us that there is lateral displacement equal to half of the diameter of the bone.

fracture in the adult is practically never reduced. The fragments unite side by side. Immediately after the injury, blood and serum are poured out into the surrounding muscles and fascia, reducing their elasticity, and the nerves of the muscles are irritated by these products, so that the soft structures can not be brought down to their former length if overriding



FIG. 6—G. B., 411108. Fracture of lower end of tibia. But slight displacement palpable.

The old ideal in the treatment of fractures of the shaft of the femur used to be to reduce as much as possible the inevitable shortening. It is rarely completely overcome. We now know that the apposition in this fracture can only be made perfect by open operation, and even then only with much difficulty. Fortunately most fractures of the femur are oblique, and the longitudinal overriding does not necessitate much lateral displacement. The less common transverse

has once taken place. Our text-books speak of ten pounds of traction being indicated, when correction could not be accomplished with fifty or a hundred pounds (Fig. 1). I can never speak of fracture of the thigh without emphasizing the necessity of early traction. These cases should not be permitted to lie in bed with the long side splint of the ambulance surgeon until it suits the convenience of somebody to put on the extension apparatus. The case is an emergency case



until the greatest tolerable extension can be applied; and it is most important that that be done immediately.

One of the things the X-ray is doing for patients with this fracture is that it is saving them the damage, incidental to the increasing of effusion, caused by diagnostic manipulations. If it is possible to get an X-ray picture of a broken thigh, the best interests of the patient are served by the immediate application of immobilizing splints and extension and making the refinements of diagnosis by means of the X-ray. A well organized hospital should have facilities for wheeling a patient's bed to the X-ray room and taking two pictures, at two different planes, without disturbing the splints or traction. The less motion of the fragments that occurs from the moment of fracture the less will be the infiltration and hardening of the elastic soft tissues and the more easily will shortening be overcome.

In the study of the typical fractures of the lower end of the radius the X-ray has added but little to what was already known. The importance of complete reduction, the natural tendency of the fracture to remain reduced even without splints, and the imperative necessity for allowing free motion of the finger tendons from the first, have all been well understood. There are, however, certain fractures of this region which were practically undiscovered until the X-ray threw its light upon them. Such a fracture is shown in Fig. 2. Here is a fracture which eluded the most careful examination.

Fractures of the lower end of the humerus, I have shown in a recent paper\* often defy satisfactory reposition except by the help of the X-ray.

Fracture of the clavicle is so easily accessible to touch and inspection that its treatment remains unchanged. Fracture of the fibula is commonly associated with inward displacement of the lower end of the upper frag-

ment which is entirely out of reach (Fig. 3). The position of the fragments in fracture of the shaft of the radius and ulna can not be satisfactorily determined without the X-ray, as is shown in Fig. 4. Before Roentgen's discovery was applied, fractures of the tibia were put up presumably in perfect apposition, and good results were secured; but now



FIG. 7—M. M., 22vo7. Fracture of tibia and fibula, presumed to be in good position. Observe lateral displacement, angular displacement, and shortening.

we observe that they are rarely in perfect position; indeed, in the majority of cases perfect position can be secured only with much pains and difficulty and often only by open operation. Figures 6, 7, and 8 illustrate this point. Because of the fact that the public has been taught to expect perfect joining at the surgeon's hands just as at the carpenter's hands, these plates would furnish damaging evidence in a malpractice suit.

\* Medical Record, New York, 1909.



The series of pictures, Figs. 9, 10, and 11, show the value of X-ray examination in the treatment of separation of the lower epiphysis of the femur. Figs. 12 and 13 show a transverse fracture of the patella which could not be determined except by the X-ray. No treatment but rest of the knee and of the quadriceps extensor was required in this

displacement the old idea still prevails in many minds, that, if certain traction or manipulations are made and the bone ends brought into approximately normal relations they slip back into place as a dislocation does under the same conditions. The X-ray has shown us that this is not the case, but that perfect apposition, while sometimes secured is by no



FIG. 8—A. K., 23v07. Fracture of tibia and fibula. In plaster case. Presumed by an experienced and competent surgeon to be in good position.

case, but had the nature of the lesion not been discovered and the patient been allowed about, the chances are strong that he would soon have returned with a typical fracture with a palpable separation. In transverse fracture of the extreme upper end of the humerus, satisfactory reduction, on account of the heavy upper arm and shoulder muscles, can only be determined by the X-ray.

In thinking of these fractures with

means the rule. I could show pictures illustrating that it is possible to get perfect apposition; but the object of this paper is to show that it is possible to think that we have perfect apposition when in reality we have not. Still the functional results have been good in these cases with which I am familiar which have healed with mechanically imperfect reposition. At the same time it must not be assumed that we are to be





FIG. 9.—J. A., 8694, 231106. Boy, aged 12. Separation of lower epiphysis of the femur. Observe epiphysis lying at right angle on the front of shaft. This is easily palpable under general anesthesia.



satisfied with even good functional results and bad joining if good joining is possible. In all surgical operations, whether in the operative treatment of a tumor, an hernia, or in the manipulation treatment of a fracture, the aim of the surgeon should be to restore the parts to their normal relations. The scarcely noticeable limp, due to a slightly shortened leg, may

undoubtedly be, are predetermined by the degree as well as by the presence of the traumatic abnormality.

I can not close this paper without emphasizing the desirability of the early and complete reduction and immobilization of all fractures. In the ordinary simple fractures of the tibia and fibula I have always advocated immediate encasement in the plaster



FIG. 10—J. A., 8694. Separation of lower epiphysis of femur. In plaster case, after anesthetization and apparent correction by the sense of feeling. Observe anterior displacement of epiphysis.

be the determining cause of other disease; the "rheumatism," occurring in a leg that has been broken, is often but an expression of pressure upon a nerve by a hump of bone slightly out of place; local circulatory obstruction, with its train of symptoms, may be due to the same cause; and osteitis and sarcoma, occurring at the site of fracture, if due to traumatic abnormalities of the bone, as they

splint with only a cotton stocking between the skin and the plaster. If such fractures can be immobilized early, swelling amounts to but little. A final cardinal point is that, after its reduction and immobilization, such fractures should be free from pain. Opiates are contraindicated. A fracture that is painful is wrong; and should not be concealed by a splint.



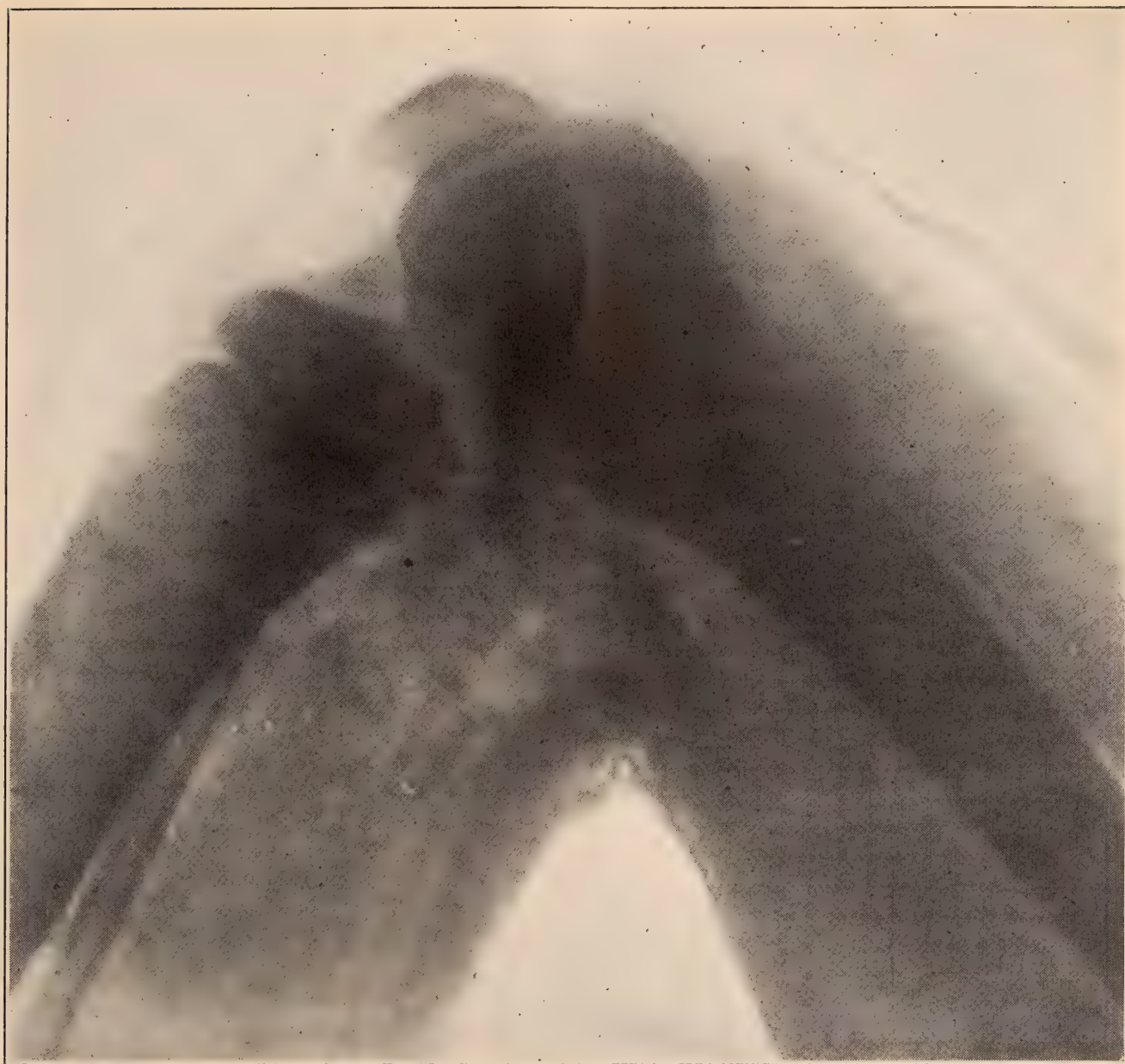


FIG. 11—J. A., 8694. Separation of lower epiphysis of femur. In plaster case, after further anesthetization and extreme flexion. Position perfect.



FIG. 12—J. K., 8791. Fracture of the patella with slight separation.





FIG. 13—J. K., 8791. Fracture of the patella with slight separation. This picture shows the obliquity of the fracture.



*Discussion.*

DR. A. T. BRISTOW said he would limit his remarks on the treatment of fractures under three heads. First, he wanted to speak of the use of anesthetics; next, about the use of the X-ray; and lastly about the treatment of fractures of the femur and especially with reference to the use of the excessive weights which Dr. Warbasse recommended.

The subject of fractures, he stated, was interesting from many points. Very important is the fact that most of the damage suits which we meet with in the courts, are based upon the treatment of fractures. Of all fractures, there is no one which has so frequently been the subject of law suits as that which we know as Colles' fracture. It, therefore, becomes important that the surgeon shall make his diagnosis correctly, and second, that he shall get as good replacement as possible, and for this purpose we have the use of the anesthetic and the X-ray. He sympathized to a certain extent with the notion that we should not depend entirely on the X-ray. Undoubtedly we should not depend exclusively on any force in our armamentarium. We use everything which is good and exclude nothing. Before the X-ray came into vogue the anesthetic was the most valuable agent we had in preventing blunders. Many a man would have avoided disastrous blunders if he had used an anesthetic. He had seen dislocations of the humerus treated as fractures by good men and vice versa.

With regard to the use of anesthetics in certain fractures, in Pott's fracture he makes it an invariable rule never to set a Pott's fracture without an anesthetic. By Pott's fracture he did not mean a simple fracture of the fibula with rupture of the internal lateræ ligament; he meant a fracture of both bones with subluxation of the astragalus. When you have that sort of fracture, he said, you can not without extreme brutality effect reduction and over correction without putting the patient profoundly under an anes-

thetic. If you do this you will have the powerful anterior tibial and gastrocnemius muscles relaxed, so that you can get a proper over correction, and the treatment of Pott's fracture supposes the extreme of over correction. Unless you over correct you are sure when your patient gets on his feet to have flat foot. If you attempt to replace without an anesthetic you will not get the over correction required.

Another fracture in which he regarded the use of an anesthetic as absolutely necessary is Colles' fracture. We used to be taught, he stated, and it is still taught in the schools, that in a Colles' fracture the lower fragment overrides the upper which is locked in its malposition by a periosteal bridge.

You will rarely find such a condition. He had taken pains to investigate that. He had many photographs of cases of Colles' fracture, and it seems that this is what happens: when the patient falls on the extended hand, the entire force, momentum and weight of the body is transmitted by the shaft of the radius to the end of the radius, and the shaft simply pushes its way straight through the head of the bone, splitting it on one or both sides with a resulting shortening and impaction. When you examine the X-ray plates you find corroboration of that. The deformity of the Colles' fracture is due to a shortening of the radius, and a resulting prominence of the ulna. The ulna is not always dislocated, although it usually is.

What is necessary to restore function to that hand? the speaker inquired, and answering said that it was absolutely necessary to break up the impaction. It is not a case of relaxing a periosteal bridge; it is not a case of bringing a fragment that is overriding down into place. You will never get a good result with these cases until you give an anesthetic and break up that impaction, and you will not always get it at this. There are cases where it is impossible to get a perfectly good result on account of



excessive splintering and consequent shortening.

He agreed with what Dr. Warbasse said with reference to the undesirability of immobilizing the fingers. It is the most undesirable thing you can do.

It is extremely important in Colles' fracture to have an X-ray plate taken.

In private practice he advised to have an X-ray plate taken before and after reduction. He did not get an X-ray plate taken with the hand in supination alone, but had the picture taken in two planes. If taken in supination alone you would not always see a displacement, which would be visible in a lateral view.

With regard to injuries about the elbow-joint, he referred to the advantages of an anesthetic there, particularly in children, and also the use of the X-ray. It is a great deal safer, he stated, when a child comes with a swollen and tender elbow to treat the case as a fracture, even if it is not a fracture, than to treat it as a sprain when you have a fracture. These are the cases in which the X-ray is invaluable. It will tell you whether you have a fracture or not. Sometimes you have only a fracture of the epicondyle; then you require no splint, but only position.

With fractures of the condyles and epicondyles, the best treatment is that recommended by Scudder—the greatest degree of flexion possible.

Dr. Bristow said that we ought to remember the X-ray is a shadow picture, and that many of these deformities are exaggerated. The further the bone is away from the plate, the greater the exaggeration.

A word about the treatment of fractures of the femur. Thirty years ago the late Dr. Wight read one of the most valuable papers that has ever been written on fractures of the femur. The only mention of it is under the head of Femur in Gray's Anatomy, where it is stated that Wight, of Brooklyn, once mentioned that the normal length of femurs was not the same. This paper was published in the proceedings of the Med-

ical Society of the County of Kings, January 21, 1878. Dr. Wight measured, at two intervals, over 100 individuals with the idea of determining whether the normal femurs were of equal length, and in what proportion of individuals they are of unequal length. He made the internal and external measurements, and he pointed out that it is important to measure with the tape down, that is, you do not see what the measure is at the time of measuring.

The conclusions he reached were briefly as follows:

a. The greater number of normal lower limbs are of unequal length.

b. The left lower limb is oftener longer than the right.

c. The probable average natural inequality is about one-quarter of an inch, perhaps a little greater than this.

d. The only perfect standard of a lower limb which has been broken is the limb itself before injury.

e. In cases of doubt measure other corresponding bones of the same individual, the humeri, for instance.

In this connection Dr. Bristow spoke of one case which interested him very much, when a young boy of 14 years came to the Long Island College Hospital into his service, with a fractured femur, and when he measured the limb he found two inches of shortening. He was obliged to put on a weight of 15 pounds before he could get the shortening down to  $\frac{1}{2}$  inch, and he had to let it go at that. This was before he had read Dr. Wight's important paper. He believed that in this case if the humeri had been measured, that it would have been found that the humerus of the uninjured side was the longer of the two, and that consequently the injured femur was *originally* shorter.

In a case of fracture of the neck of the femur, treated in St. John's Hospital more recently, the shortening was much greater than is usual, but without unusual displacement actual measurements of the humeri showed that the injured side was half an inch shorter than its fellow humerus.



DR. W. C. WOOD said the proposition advocated by Dr. Warbasse that recent fractures of the extremities should be promptly placed in plaster of paris, was not a new one. It was first advocated in this country by Henry B. Sands and put in practice in Bellevue Hospital during the early eighties. It is a subject that has been discussed pro and con ever since.

When he was an interne in Bellevue soon after that time, it was the practice of the second surgical division to treat all recent fractures, with the exception of severe crushing accidents, in that way. Of course, his practice had been somewhat influenced by that training. He thought in cases where the injury had been caused by indirect violence, and the plaster was applied with the skill and care advocated by Dr. Warbasse, that there is no better method of treating fractures. Two qualifications are to be made; one, the fracture should be by indirect violence without contusion, and the second the plaster should be put on with the skill that Dr. Warbasse would apply it. Fractures caused by direct violence, such as a crushing wound or blow, cannot be so treated. About once a year he had seen a case where that method had resulted in severe sloughing of the parts below the point of fracture.

The speaker stated that it was too common in fractures to give opiates. Dr. Warbasse condemned it and it certainly should be condemned most emphatically. If a patient is not comfortable in a splint in a fracture, there is some trouble with the splint, as a rule. This summer he saw a fracture with ischemic paralysis of the hand that had been treated with opium from the start. He had seen a case where there was sloughing of an entire group of the anterior muscles of the leg, treated in that way. He did not think the method of early application of plaster of paris should be made use of except with the greatest care and in the line of cases he had indicated. He did not believe the average interne is capable of putting up a recent fracture in that way.

Concerning the method of treatment of fractures of the femur by weights and excessive weights, a brief reference to a case that came under his care was of interest. A jockey, of magnificent physique, 98 pounds in weight, received a fracture of the upper third of the femur by being thrown from his horse; 45 pounds of traction was put on. Last week the boy came to the speaker with a deformity of  $70^{\circ}$ , it being necessary to refracture the femur, chisel off the angle and treat by less than 45 pounds of weight in the way it should have been treated in the beginning, that is, practically in the upright position; in other words no amount of traction in cases of fracture of the femur will produce apposition of the fragments, especially in cases of fracture of the upper third, unless the position is different than the horizontal. The picture Dr. Warbasse presented showing separation of the lower epiphysis of the femur illustrated the matter beautifully. No amount of traction or manipulation would have held that epiphysial fragment in position, unless the knee-joint had been treated in acute flexion. Position of the limb in treatment of fracture is more important than excessive weights.

With reference to the X-ray in diagnosis, what Dr. Warbasse had said was true, many cases of poor anatomical result make a perfect functional result, yet with the fractures that come to us for examination, there are so frequently at the present time mismanagement and incorrect methods of reduction used, that he did not think this needs to be emphatically expressed. If taken in a less careful way it will lead to carelessness in reduction, which idea he was very sure was far from Dr. Warbasse's intention in presenting the facts. While a truth should be emphasized no matter what is the result, yet we must not lessen our attempts to get anatomical reduction in fractures. On the other hand, because the anatomical result is not perfect, as determined by the X-ray, it does not mean that patients should be subjected to open operation for the reduction.



Dr. Eastmond told him that over and over again a good many men had said to him, that not sufficient fractures were treated by open operation. He thought this statement was perhaps true, but nevertheless many fractures to-day, though not anatomically correct are not sufficiently incorrect to warrant an open operation.

We want to know, the speaker said, whether the line of support is direct or not; if the line of support is perfect. If the weight or force being put on the bone will tend further to increase the deformity, then the condition is wrong. If the line of support is sufficiently good so that when there is weight on the bone, these bones will not further pass by each other, the functional result will be excellent.

DR. PAUL PILCHER thought that the most important point made by Dr. Warbasse was in relation to the immediate treatment of fractures. The importance of immediate diagnosis and treatment included the reposition of the fragments before swelling has occurred. It is especially important to treat fractures of the shaft of the femur early, and if any traction is to be used the maximum amount should be applied immediately. The best results he had seen in the treatment of the fracture had been at the clinic of Prof. Kocher in Berne, Switzerland. Practically all of the fractures that came to the clinic were prepared for anesthesia; then they were taken to the fracture room where there is a long table with extension supports at the end of which are pulleys. These are arranged so that the exact amount of pull on the leg may be determined and controlled. The patient is anesthetized and a support put against the perineum, and then by means of a direct pull the lower fragment is drawn upon and the ends of the bone are brought as nearly as possible into their position. It is important that no traction be used on the lower leg or that the ligaments of the knee be stretched. At this time there is no effusion; there is some spasm of the muscle. Traction is applied, the leg is pulled

out to the same length as the normal leg, the site of the fracture is examined, and if the fragment is in place plaster is applied. This plaster is started at the foot and is continued up going around and including the pelvis, so that the patient, still under the anesthetic, is put up in a permanent dressing with the fracture entirely reduced. Following out that treatment the patients are not confined to bed but are allowed up and may go around with a crutch. In certain cases this is of great advantage.

As to the contention of Dr. Bristow in claiming that all fractures of the lower extremity of the radius were impacted fractures, he certainly could not accept this theory, inasmuch as the anatomical dissection and the examination of many such fractures did not sustain the theory advanced by Dr. Bristow.

The lower end of the radius is fractured in a number of ways. In some cases we have an impaction; but the impaction does not always take place in the same way. Oftentimes there is an oblique fracture; again, a crushing blow results in a splintering of the lower end of the radius, but in a majority of cases there is a transverse fracture of the lower end of the radius and the lower fragment is forced back and rests upon the lower end of the upper fragment. This condition has been very carefully studied by Dr. Lewis Pilcher and his works on the subject are too well known to need discussion.

In a recent case the speaker found it necessary to expose the fractured bone in order to reduce the deformity and the conditions which he found were exactly as just described, there being absolutely no impaction present.

In many cases the simple fracture of the lower extremity of the radius can be reduced without an anesthetic. He had seen a number of cases recently in which reduction was accomplished easily without an anesthetic with a perfect result. In some cases impaction takes place and in some the only proper treatment is the breaking up of the impaction under anesthetic.



The cases which have been seen by Dr. Eastmond are almost without exception the cases in which there has been difficulty in reduction in using the ordinary methods and therefore his estimate of the condition cannot be a criterion of the entire subject.

DR. C. EASTMOND said he did not have much to do with the treatment of fractures, but saw a good many of the results of fractures treated by other men. A couple of points occurred to him from the X-ray plates with regard to the results we do not get and the conditions which exist weeks after the reduction and apparent cure of the fracture. In oblique fractures of the long bones, particularly the humerus and femur, we often find marked overriding, marked shortening, and very often find the fragments resting at an angle, often as much as  $45^{\circ}$ . As to the question of overcoming that he did not know how to handle them, but spoke of it as some of the unfavorable end results.

In regard to the Colles' fracture, there he would have to take sides with Dr. Bristow in regard to the nature of that fracture. From X-ray plates he would say that at least 80% of fractures of the lower end of the radius that he has seen are comminuted and have the shaft of the bone impacted into the soft cancellous extremity.

DR. W. S. RANKIN agreed with Dr. Bristow in regard to Colles' fracture and said it is exactly what happens. He thought Dr. Bristow's percentage of 1 to 200 was a little small, but said that we have a superimposed fragment very seldom. The oblique fracture is the most common. He had seen a large number of these fractures, and he could not reduce them without an anesthetic, unless in the case of children. Taking the average adult with good muscles, he thought it would take Dr. Pilcher quite some time to reduce it.

One point he differed with Dr. Bristow; after you have reduced these fractures, the common belief is they will remain reduced. He had

reduced these fractures and had seen them become displaced immediately afterward, and thought it important you should keep them in the position you put them with carefully made apparatus.

In fractures of the elbow he thought, the X-ray is very valuable to confirm your diagnosis, but one can make a pretty fairly accurate diagnosis without it. The X-ray will confirm you or perhaps clear up if you are in doubt. In dealing with these fractures he thought tradition had a good deal to do with the bad results. If you put up a fracture and are not satisfied with it, take it down the next day, instead of keeping it up two weeks, as the text books advise. That had been his practice.

Recently he had been delighted with the use of ethyl chloride in examining these fractures. The light anesthetic is quite long enough in treating fractures of the radius.

In Pott's fracture you should not attempt to do anything without an anesthetic. He thought we sometimes overdo the overcorrection, and when a man goes out to walk he has a callus on the outside of his foot, which is painful. At least every two weeks the foot should be put up at right angles, and when a man starts out to walk he will have less trouble afterward.

With fractures of the femur it is important to know whether to wire or use a splint. He had seen fractures of the femur that you could put in position, replace it two or three times in two or three weeks, and with your finger you were sure you had it in good position, and yet by muscular action it will become displaced. The case of Dr. Wood was interesting, showing that even when you wire these fractures, they will become displaced, unless the proper position is applied at the time of the first injury.

DR. J. P. WARBASSE agreed that it is a mistake to apply a routine treatment to all fractures. Each fracture is peculiar and each patient is peculiar, and, indeed, each surgeon is peculiar.



As to the interpretation of X-ray pictures, much study and skill are necessary; and there are a good many errors due to failure to interpret correctly these shadows.

Dr. Bristow has alluded to the treatment of fractures of the elbow; but he has advocated a routine treatment. He has made the statement that fractures of the condyles are best treated by extreme flexion. That is laying down a rule, which is a dangerous thing to do. If Dr. Bristow had seen some of the pictures of elbow fractures, which the speaker had presented at the Kings County Society last winter, he was sure he would not have made this statement, for he showed pictures of fractures of the condyles, in which flexion did not remedy but made the condition worse. He had showed pictures of fractures of the condyles, in which extension corrected the deformity, when it could neither be corrected by flexion or manipulation; and, furthermore, he had showed a picture in which correction could not be accomplished under an anesthetic by either flexion or extension and required operative treatment. That extreme flexion is the most generally available treatment for these fractures is well said, but to lay it down as a rule is decidedly bad practice.

Concerning extension in fractures of the thigh, the only point he would make is that in applying it, no traction should be made upon the ligaments of the knee-joint. To put up a fracture of the thigh in a man the leg from the toes to the knee-joint should be covered by a stocking or bandage, so that the adhesive strips are not applied to the skin below the ligaments of the knee-joint.

There are cases of fracture of the femur which cannot be corrected by extension. It does not make any difference whether 30, 40 or 250 pounds are used. It sometimes happens that the sharp point of the oblique end of a fragment becomes engaged in the fascia or muscle and cannot be corrected by traction or manipulation,

and a perfect apposition is secured only by operation. These are the cases which result in delayed or non-union and often compel operation.

The inequality of the legs shown by Wight, we are familiar with. The measuring of the legs to determine whether there is shortening or not, he thought of little importance compared with the X-ray picture. We may find that we have satisfactory measurements, but we may have a spicule of bone engaged in the muscle which will absolutely hinder a good result.

That Sands first applied the method of treatment he had advocated (immediate application of plaster with no padding), he was not inclined to accept. Sands, he believed, advocated the immediate correction and dressing of fractures of the lower extremities in plaster, but it was his practice to apply a large amount of cotton; and with the amount of cotton that was used in those days a satisfactory immobilization was not secured. If we secure absolute immobilization we will not have the swelling which has always been expected.

The use of opiates for relieving pain in fractures after a splint is applied, he desired to condemn as pernicious practice. The only way to make a patient comfortable is to reduce the fracture and put on a proper splint. To use opiates is deceiving oneself and the patient too, and delaying the correction of the cause of pain.

The ambulatory treatment of fractures is a subject occupying attention at the present time. Much was to be said in its favor and considerable against it. Time would not permit its discussion.

As to the case referred to by Dr. Bacon, the man with delirium tremens: by all means his deformity should be corrected. The speaker believes that if there is anything conducive to delirium tremens, aside from the bad previous habits of the patient, it is the presence of periosteal nerve irritation. When the pain is due to an unreduced fracture, he be-



lieves the patient is more apt to develop delirium tremens as a result of the constant nerve irritation, than if he was given a momentary pain and the fracture corrected, or the operation done under anesthesia. The very important indication in delirium tremens is to remove all sources of irritation.

As to Colles' fracture, he disagreed with much that was said. That all Colles' fractures are impacted he believed is not correct. Many slip back easily into place. That an anesthetic is indicated in all cases, he did not concur in; and he did not believe there was a man who practices giving an anesthetic in all cases however strongly he may advise others to do it. It is not necessary in even the majority of cases. It is not a difficult

thing ordinarily to put a Colles' fracture back. We should always tell these patients that the chances of shortening in the injured bone are very great; and they may see later by the prominence at the lower end of the ulna that the forewarning was justified. But this is an accident which the surgeon cannot prevent.

In Potts' fracture, to give all these patients a general anesthetic, as has been recommended by a previous speaker, as a routine measure, is not indicated. The rule is to make a little overcorrection, which throws the upper end of the lower fragment out where it belongs. Occasionally these cases do require a general anesthetic, but he did not believe it necessary in all cases, nor should we lay it down as a routine treatment.

## THE TREATMENT OF CONGENITAL TALIPES EQUINO-VARUS.

By JACQUES C. RUSHMORE, M.D.

BROOKLYN-NEW YORK.

THE late period at which many of these cases, either through carelessness or intent, come under treatment, has suggested to me the propriety of setting before you the advantages of early correction and of describing a simple and well established technique. To the best of our knowledge, primarily a deformity caused by pressure while in utero, it seems wise that treatment should be begun early, before further detrimental changes take place, and that it should be carried out gradually, to allow the various parts to conform to their new relations to each other.

The idea that it is best to postpone correction until the infant is more fully developed and so better able to withstand the treatment is in my experience without foundation. The only discomfort to the patient is at the time of applying the necessary dressing and during the intervals between they are free from all pain and as thriving as any healthy child.

Motion in a congenital club foot is possible in only one direction, and that the direction of the deformity. Voluntary action, therefore, simply tends to increase the deformity and develop those muscles favoring it, whereas the opposing group or those muscles whose actions would tend to correct the condition, suffer further atrophy from prolonged disuse. Further, the deformity is of such a character that the origin and insertion of the first group of muscles, or those which retain their functional activity, are brought in closer contact tending to increase their muscle-tone while the reverse is true of the latter group. The interosseous lines, following the external contour of the bones and conforming to the abnormal posture are functionally of much less value in a foot in which treatment is begun in childhood than in one in which treatment has been begun in infancy.

As time goes on the foot as a whole becomes stiffer, more rigid, due to the



strengthening of the component parts and greater force is required to overcome the deformity, causing more trauma and suffering than in the first few weeks of life, to say nothing of the possible division of ligaments and tendons at a later period. Correction begun early in infancy and carried out carefully makes possible, in many cases, a foot perfect both as to form and function, whereas correction begun in childhood or adolescence may result in a foot fairly normal as to function, but with certain persistent anatomical defects.

In discussing the treatment it is my purpose to restrict my remarks to uncomplicated congenital talipes equinovarus, the most common form of club-foot.

*Treatment.*—A brief consideration of the anatomical changes of this deformity is essential to a proper understanding of the technique of correction. The foot is plantar flexed, inverted and adducted, that is, twisted downward, inward and backward. The outer border is markedly convex, the inner border concave. The degree of deformity may vary anywhere from a fixed posture which would be the limit of motion in this direction for a normal foot to a position in which the great toe is in juxtaposition to the inner side of the shaft of the tibia. The tibia may be rotated inward on the shaft of the femur.

Analysis of the posture shows the following: The plantar flexion is caused by rotation of the astragalus forward on its transverse axis until only the posterior portion remains between the maleoli. Associated with this is a shortening of the tendon of Achilles and its muscles, the gastrocnemius and soleus and the posterior ligament of the ankle joint, drawing the head of the os calcis markedly upward, making it appear in extreme cases that the heel is deficient. The rest of the foot, with the astragalus acting as the hinge-point, is dropped downward. The inversion and adduction are practically one and the same position. For the astragalo-calcaneal and astragalo-navicular joints

are of such a character that lateral motion when carried to any extent soon becomes rotary, so adduction when carried beyond a limited range becomes inversion. The astragalus, navicular and cuboid bones are rotated inward and upward on their antero-posterior diameter and at the same time adducted. The remaining bones of the foot are in an extreme degree of adduction and inversion.

The tibialis posticus, anticus, and flexor longus digitorum are shortened and contracted, so aiding in holding the bones in the position of the deformity. The extensor longus hallucis, the extensor communis digitorum, peroneus longus, brevis and tertius are stretched and atrophied.

The ligaments on the inner concave side of the foot, including the internal lateral ligament of the ankle joint and the plantar ligament are shortened. The reverse is true of those on the outer convex side.

The treatment consists of manual correction and retention with plaster of Paris. In the first two weeks of life the mother or nurse gently stretches and massages the foot, so relaxing the muscles and improving the blood supply. At the third week the patient comes to the hands of the surgeon for more forceful correction and retention. The limb is carefully powdered with boric acid. Small pledgets of non-absorbant cotton are placed between the toes and narrow bands of cotton are placed around the toes and around the leg, just below the knee, to act as cuffs. The whole part is covered loosely with turns of a roller flannel bandage. The mother firmly holds the leg at the knee and the physician grasps the foot with one hand, holding it in a corrected posture, while with the other he applies the plaster bandage, making the turns from within out, in such a manner that each turn will aid in correction of the deformity.

The dressing is removed at the end of the week, the limb carefully cleansed and powdered, and, having thoroughly stretched the foot, a fresh plaster is applied holding the foot



in a still further corrected posture. The deformity is thus overcome by slow stages, receiving treatment each week until correction is fully accomplished. If proper care is exercised in putting on the plaster, there should be no excoriation of the skin nor swelling of the toes.

The first step in correction is to overcome the adduction and inversion leaving the plantar flexion as the last. For the foot goes up much more easily after Varus has been changed to Valgus and the parts of the inner side of the foot have been thoroughly stretched; furthermore it is more difficult to overcome Varus in a dorsi-flexed position. Having thoroughly overcome the inward rotation and stretched the foot so that it has assumed the position of extreme Valgus, substituting a marked convexity in place of the concavity on the inner side of the foot, work may be begun to correct the plantar flexion.

Care must be taken at this point that *the foot as a whole be flexed and not merely bent in the middle. The desired flexion therefore must be produced at the ankle joint and not at the medio-tarsal articulation.* The foot is first brought up in extreme Valgus and gradually allowed to approach the middle line of the leg but never fully reaching it. This part of the correction is continued until the foot may be brought up against the outer side of the leg without force. And now having thoroughly stretched the foot so that, without force, passive motion is possible to an extreme degree in all directions, it is held in a position of eversion and dorsi-flexion for several weeks. This step is taken to effectually tire out all of the muscles. At the end of this period the plaster is removed and the mother is instructed to twist the foot night and morning. The physician should exercise supervision over the case during this period, and if there is any return of stiffness the part should again be put in plaster of Paris for a short period. The correction of the varus usually requires six weeks and the whole forceful correction four months.

Sometimes it is necessary to apply a light metal brace to retain the foot in a position of over-correction. The brace suggested by Taylor accomplishes this purpose best. When the child begins to walk any slight reversion, such as in-toeing, is usually amenable to some such simple procedure as building up the soles of the shoes on one side or the other. In fact it is necessary to watch these patients throughout childhood.

Success, in my opinion, depends upon early recognition of the deformity, treatment begun in early infancy, continued unremittingly, and careful observation during the period of growth.

Attention again should be called to the fact that over-correction of the deformity is a most important feature of the remedial treatment. By this procedure a foot perfect as to form and function may be obtained.

#### *Discussion.*

DR. WALTER TRUSLOW said that talipes equino-varus is a condition we can well afford to give attention to. To overcome it means persistently keeping at it, and the first necessity is to begin treatment early. Dr. Truslow believes in beginning by the end of the first week of the child's life. He depended, as did the author of the paper, mostly on the use of plaster of paris dressings, frequently changed, until the correction and even over-correction of all phases of the deformity were accomplished. In support of this necessity for early procedure, the doctor referred to the work of Wolffe in Germany, and Walsham and Hughes in England, and their researches on the direction of the bone striae to weight-bearing support and the changes which these striae would take when abnormal weight-bearing strains were habitually held. These lines are not fixed in infancy, when the deformity should be corrected.

The speaker confirmed the order of procedure outlined by the author of the paper. He pointed out, that first to correct the more distal deformity was right, because the fixation of the proximal segment gave a better "pur-



chase" for the strain of twisting. Thus the turning in of the sole and the adduction, being the more distal deformities, should first be corrected. Four weeks is an average time for this. By the fifth week the correction of the plantar flexion should begin. Dr. Truslow pointed out that care must be taken in attempting to stretch the tendo achilles, to avoid stretching the weaker plantar tendons and fascia, leaving the os calcis unchanged in its faulty relations.

In referring to the technic of the correction of the varus and adduction, the speaker advocated the use of adhesive plaster strappings, applied over a thin stocking, and extending from within underneath the foot and passing outward upward, taking the place of the stretched peronei group of muscles. This holds the corrected position while the plaster of paris dressing is being applied, an otherwise difficult problem. Referring also to the technic of the correction of the plantar flexion, he used the knee-flexed position in order to relax the calf muscles, and thus release the pull on the os calcis, and facilitate dorsiflexion. This of course is to be followed by an application of plaster of paris dressing.

These plaster of paris dressings in his experience, are necessary until the child begins to walk. However, for the interval between the complete correction of the deformity and the first signs of walking, he has in selected cases allowed nothing to be worn, but instructed the mother daily to twist the foot in the direction of the correction. However, this is usually unsatisfactory, as but one stage of the treatment will have been performed—the correction of the deformity. The relaxed and atonic

muscles, with which the child was born, have not been developed and the tendency is for the opposing strong muscles to cause recurrence of the deformity. Unprotected, this factor is too great, and the doctor usually keeps the plaster of paris dressings on until the child begins to walk and is ready for walking braces. These are made as light as possible, fitted with a stop-joint to prevent plantar flexion and, thus reinforced, the child is encouraged to walk. The speaker believed these children walk a trifle earlier than the average child, because of this support.

Dr. Truslow insisted that the treatment must be continued for at least another year under the surgeon's observation, and because the second part, the development of the weak muscles, is of the utmost importance to ultimate success.

DR. B. B. MOSHER said in relation to the time of beginning treatment for infantile club foot, it should be begun as soon as the child is born. The treatment should be rather vigorous and in most cases the thing to do is to give an anesthetic and be sure to overcorrect the deformity as early as possible, retaining this overcorrection by the use of plaster of paris. He thought that plaster of paris is a wonderful retaining splint, but if used on a club foot for any other purpose than to retain a position already brought about by forcible overcorrection its possibilities are overestimated and disappointment will surely follow such use.

DR. J. C. RUSHMORE said he simply wished to say in regard to adhesive plaster, that plaster of paris is none too strong to hold a club foot, and he thought it is the only thing to use.



# OCCLUSION OF THE MESENTERIC VESSELS \*

By E. ARTHUR PARKER, M.D.

BROOKLYN-NEW YORK.

THE difficulty of diagnosing occlusion of the mesenteric vessels, its high mortality and the opportunity to report three cases, all fatal, suggested this paper.

Jackson, Porter and Quimby, in the *Journal of the American Medical Association*, June 4, 1904, analyzed 217 cases of occlusion of the mesenteric vessels. Since then Parker, Syms and Greensfelder in the *Annals of Surgery*, Lee and Westbrook, before this society, have each reported a case. With those I now report, 223 have been reviewed. The diagnosis was confirmed in but four at operation; there were four operative recoveries.

CASE I.—T. K., aged 7, U. S., male. Right inguinal hernia since infancy. During the past year has had three attacks of severe pain at the hernial site. November 5, 1901, a Bassini operation was performed. Sac contained cecum and appendix. Appendix adherent and constricted near its tip. Appendix removed and the stump inverted. November 9, four days after operation, temperature 100 2-5 degrees, pulse 128, respirations 26, bowels moved. November 10, abdomen distended, vomited mucus and blood, enema expelled with traces of blood, temperature 98 3-5 degrees, pulse 128. November 11, wound reopened and original incision enlarged. Cecum black, drains inserted. November 12, retained all nourishment; eight green liquid movements; abdomen distended. Midnight temperature 98 degrees, pulse 142, respirations 142; died November 13, 1.45 A. M. No autopsy.

CASE II.—A. F., 48, female, married, Sweden. Usually in good health, constipated. For three days had severe pain in the abdomen, at first continual, later intermittent;

vomited especially after food or drink; constant nausea and headache. Entered St. Mary's Hospital the evening of September 3, 1904. She then looked very ill, abdomen distended, continual vomiting, tongue dry and coated, paroxysmal pain in the abdomen; coils of intestines seen as pain comes on; pain and tenderness not localized; enema not effectual; temperature 98 3-5 degrees, pulse 90, respirations 23. Laparotomy the same evening. Bloody fluid in the abdomen, bands of adhesions, obstructing the intestine near the splenic flexure, separated, numerous masses of dark coils of small intestine noted, patient in desperate condition, nothing further done. Death in two hours. Post mortem: thrombosis of the mesenteric vessels, several feet of small intestine black.

CASE III.—I. L., 40, Russia, male, married, clerk, entered St. Mary's Hospital and operated on January 27, 1908. One year previously had an attack of appendicitis. Four days before entering the hospital was taken with sudden, severe abdominal pain, nausea and vomiting; no passage of gas or feces. Abdomen now distended, general abdominal rigidity and tenderness, especially marked in the right iliac fossa; the pains are severe and rhythmical; temperature 100 degrees, pulse 90, respirations 30; diagnosis intestinal obstruction. Median incision, appendix adherent and ruptured near its tip, free pus; obstruction due to adhesions, small intestine distended and dotted with hemorrhagic spots. Appendix removed, wound drained and Murphy treatment instituted. The following day dark brown vomit, gas and feces expelled; temperature 100 4-5 degrees, pulse 108, respirations 36. January 30, rested well, gas and feces expelled, temperature 99 3-5

\* Read before the Brooklyn Surgical Society, June 9, 1908.



degrees, pulse 124, retained all nourishment. January 31, bowels moved freely; 4 P. M. temperature 100 3-5 degrees, pulse 120, respirations 26; 5 P. M. died suddenly. Wound reopened, mesenteric vessels occluded, gray spots on some coils of intestines, hemorrhagic points on others and several feet of small intestine black.

The superior mesenteric artery supplies the intestines from the third part of the duodenum to the descending colon, the inferior mesenteric the descending colon, sigmoid and rectum. The final branches of these arteries pass transversely around the intestine and are terminal arteries. The inferior mesenteric vein empties into the splenic, the superior joins the splenic to form the portal. The intestinal veins have no valves. Excepting in the infrequent form of chronic occlusion, the establishment of a collateral circulation does not occur after mesenteric thrombosis. According to Faber, if the superior mesenteric artery is suddenly blocked there is no pressure in its vein, thus reducing the portal vein pressure, the smaller inferior mesenteric, instead of forming a collateral circulation, empties itself into the channel of least resistance, the portal. According to Rosenbach blockage of the vessel stimulates the intestine to marked contraction, necessitating more nourishment for itself, yet narrowing the lumen of the vessels which should form the collateral circulation, thus giving infarct, gangrene, abscesses. The extent of the intestinal involvement varying, according to Park, from a slight anular gangrene to death of the entire tract.

Among the many conditions assigned as causes of mesenteric occlusion are: diseases of the heart, arteries, kidneys, septic processes in the uterus, gastric ulcer, gangrene of the limbs, intestinal cancer and

appendicitis. It has followed operations for ventral hernia, hemorrhoids and splenectomy (Delatour).

Occlusion occurred in an infant of one month, at five, seven and eight years, in over 50 per cent. of the cases between the ages of thirty and sixty.

The most important symptoms are sudden, severe abdominal pain, occurring in 97 per cent. of the recorded cases. Park attaches considerable diagnostic import to the suddenness of the onset and the severity of the pain. Diarrhœa with or without blood. Intestinal hemorrhage, not otherwise explicable, Mudd would diagnose mesenteric occlusion.

Obstipation in 22 per cent. of the cases.

Distension 78 per cent.

Nausea and vomiting, brown colored fluid, often bloody, may be fecal.

Temperature usually below normal.

Increased pulse 90 to 150.

Free fluid in the abdominal cavity, frequently elicited, appears as sero-sanguinous upon opening the abdomen.

Increased leucocyte count, positive iodine reaction, and frequently sugar in the urine.

With acute blockage of the trunks of the larger vessels nothing can be done, with occlusion of lesser degree, resection of the intestine well beyond the part involved, waiting 'till later to unite the severed ends, with the Murphy treatment for peritonitis, would seem to offer the best chance for recovery. Elliott, in his successful case, resected forty-eight inches of intestine. This patient, a male, aged twenty-five, was operated June 11, 1894. The mesenteric borders of the intestine were united. Loss of flesh and irritation of the skin necessitated suturing the ends of the intestine July 27. August 3 a fistula showed. November 16, fistula closed by intestinal resection.



# SURGERY OF THE BILE PASSAGES WITH SPECIAL REFERENCE TO THE END RESULTS.\*

By JOHN C. MUNRO, M.D.

THE paper is based on an analysis of 300 operations performed for the most part at the Carney Hospital.

The writer finds that in the cases of recovery over 60 per cent. had had jaundice and that 70 per cent. of these were in simple gall-bladder cases.

Of the common duct cases 80 per cent. of the recoveries had a history of jaundice and all of the fatal cases.

The duration of symptoms can be placed in two classes: Those of short duration averaging four months; those of long duration averaging six years.

The pancreas was noted as pathological in twenty-seven cases, but in a large majority of the simple gall-bladder cases its condition was not entered on the records.

Adhesions were very commonly present, often crippling in their effects and rendering medical treatment futile.

Pulmonary complications must be reckoned with in all prognoses, but the present analysis is more favorable than anticipated, as in over 200 recoveries there were three cases of late labor, pneumonia and a few cases of bronchitis of slight degree for the most part. There were no fatalities attributable to thoracic complications.

The writer prefers cholecystostomy to cholecystectomy, unless there is definite evidence of the gall-bladder being functionless from stricture, impacted stone, destructive inflammation, etc.

Cases with recurrent symptoms may be divided into four classes:

1. Those in which the symptoms are probably due not to the presence of stones, but to some unrecognized lesion.

2. Those in which the symptoms are secondary to adhesions.

3. Overlooked stones.

4. Reformation of stones.

Analagous to these recurrent attacks the attacks of colic and jaundice, usually after a simple operation that come a few weeks after operation, due probably to a catarrhal condition secondary to the operative traumatism.

In ten cases of overlooked stones, including patients upon whom the primary operation had been performed elsewhere, the offending calculus was found in all but one case in the gall-bladder or cystic duct.

The fatal cases include a considerable number in which the operation on the biliary passages was secondary to some operation for grave lesions like cancer of the stomach, deaths from mesenteric embolism, pre-existing peritonitis, etc.

A number have been lost from toxemia or cessation of the hepatic functions. Practically every case in which there is no bile in the common duct at operation, but rather a thin pus, a fatal prognosis has been given. The patients die with high pulse and temperature, delirium or stupor and cessation of all biliary secretion.

Associated with the toxemic cases are the cases of uncontrollable capillary hemorrhage, six of which have occurred in this series. No beneficial results have been obtained from the use of calcium-chloride or other drugs, but for nearly a year jaundice and purpuric patients have been given fresh rabbit serum as advocated by Weil, Leary and others, and so far without any trouble from bleeding at or after operation. The method seems worthy of further study and trial.

The end results are known in 200 cases up to the present time, and of these 122 report themselves as well. No reply has as yet been received from 106.

\*Author's abstract.



## LONG ISLAND MEDICAL JOURNAL

A Forum for the Discussion of all Topics involving the Medical Profession and especially that of Long Island.

EDITED BY

PAUL MONROE PILCHER, A.M., M.D.

EDITORIAL OFFICE :

386 GRAND AVENUE, BROOKLYN, N. Y.

Further Information on advertising page 3

FEBRUARY, 1909.

### SECRECY IN MODERN VIVISECTION.

THIS is the heading of a letter sent in reply to the letter of Dr.

Van Fleet, Chairman of the Legislative Committee of the Medical Society of the State of New York, dated December 20, 1908, in which Mr. Frederick B. Bellamy, counsel for the Society for the Prevention of Abuse in Animal Experimentation, claims that Dr. Van Fleet has directed a most unfair attack upon the Society which Mr. Bellamy represents. He claims that the statements of the Society are all well authenticated. He claims that it is as difficult for one in search of information as to "existing conditions" to gain admittance to-day into these laboratories where animal experimentation is performed as it would be for one to enter the vault of the United States Treasury or of the Bank of England. He claims that secrecy seems to have become the principal law recognized by these practitioners. This contention of the counsel for the Anti-Abuse Society is based upon wrong premises, for experimenters in our work always feel complimented when others take an interest in their work and, as a rule, are open and above-board in all of their experiments.

He asks Dr. Van Fleet, or any other learned gentleman, to answer the following questions:

"1. How can legitimate scientific work by competent men be injured by a law which will limit all vivisection to competent men?

2. How can legitimate scientific work be injured by a law which will compel the use of anesthetics in all cases where the success of the experiment does not make the use of anesthetics impracticable?

3. If our proposed legislation does not fully protect legitimate scientific work, why do not these learned gentlemen who oppose us accept our oft-repeated invitations, and suggest some amendment which will fully protect scientific research?"

\* \* \* \* \*

These questions, as they are propounded by the counsel for the Anti-Abuse Society, seem most fair, and we may state, without taking time to prove the statement, that any law, other than that which now exists, tending to curb legitimate scientific work, be its object the limitation of its privileges to competent men or to force the use of anesthetics in all cases, would result in checking the advance of science; that is, starting with this law as a basis and using absurd imaginings and faulty information as the exciting factors, the science of animal experimentation would be seriously hindered.

It is surprising that seven hundred members of the medical profession have already expressed their appreciation of the necessity of restrictive legislation upon this subject. The fact simply shows that these very men have been imposed upon, and have given their consent or approbation without a true knowledge of the policy of the Anti-Abuse Society.



## PUBLIC HEALTH AND HOSPITAL EXHIBITS.

**I**N 1909 the Alaska-Yukon-Pacific Exposition will be held at Seattle.

The United States Government proposes to devote considerable space to show the modern appliances and methods of treatment which have been recently perfected. One of the features of the exhibit of the Treasury Department in the Government Building will be that of the Public Health and the Marine Hospital Service. The exhibit will be arranged for giving the greatest amount of information in the simplest and most thorough manner. Demonstrations of great value for the layman's knowledge will be held. In its report to the officers of the exposition the department outlines its exhibits as follows:

"The Surgical Section will consist of a model operating room, having in the center wax figures showing a surgical operation in progress. Around the side of the room will be placed steam sterilizers for dressings, water sterilizers, irrigating stands, an instrument case containing a full surgical armamentarium, glass topped bottles, glass basins, and all the other appurtenances of a fully equipped operating room.

"The Laboratory Section is to contain various apparatus constantly used in the Hygienic Laboratory in the solution of public health problems. This includes laboratory glassware, sterilizers, thermostats, embedding apparatus, microscopes, microphotographic apparatus, etc. Petri dishes containing cultures of bacteria isolated from contaminated vaccine virus will be shown. A traveling laboratory is included in this section, two such outfits being constantly held in readiness by the service for field work or for use in the event of outbreaks of epidemic diseases in various parts of the country. In addition there is to be a very complete helminthological collection. This collection is of great value

in view of the increasing attention given to parasites in relation to diseases of man. A macrograph is used to enlarge microphotographs of various pathogenic bacteria, animal parasites and other specimens related to disease.

"The Hospital Section will comprise a record room and model ward. The record room contains various service publications, a hospital library, clinical histories, with their method of filing, and filing cases for microscopic slides. The model ward is equipped with modern hospital beds, invalid chairs, bedside stands, a wheeled stretcher, litters, a portable bath tub and stretcher, medicine cases, a case of surgical dressings, etc.

"The tuberculosis exhibit is to consist of a model of the Marine Hospital Sanatorium located at Fort Stanton, New Mexico. This, together with views of the buildings and surrounding country, are shown to emphasize the advantage of light and air in the treatment of tuberculosis.

"The Quarantine Section includes a model of a detention camp intended for use in time of epidemic, also models of the quarantine stations at Delaware Breakwater and Reedy Island, and a model of disinfecting machinery used at the latter station.

"The X-Ray Section will be installed in a room constructed for the purpose. Two modern coils are to be shown, including X-ray tubes and fluoroscopes, also a high frequency apparatus and the various accessories, which naturally form a part of such an exhibit. In addition, there are to be shown numerous photographs to illustrate the uses to which this apparatus is used at the different hospitals of the Service."

---

## DEATH OF DR. MADDREN.

**D**R. MADDREN was born in London, England, August 14, 1845, and died January 8, 1909, at his residence No. 1 Hanson place, Brooklyn. Dr. Maddren graduated from Bellevue Medical College, New





*Dr. William Madden*



York City, in 1873, and for the last thirty-five years has practiced medicine and surgery at No. 1 Hanson place in this city. For over twenty years he was Attending Physician in the Department of Diseases of Women and Children and General Surgery at the Brooklyn Central Dispensary; later, in 1896, he was appointed Surgeon to the Kings County Hospital which position he held at the time of his death. Many honors came to him during his lifetime; all were received by him in the modest and unassuming way that characterized all his relations with others. He was a member of many medical societies and was especially active as a member of the building committee of the Kings County Medical Society at the time of the erection of the Society's new home; his efforts to secure the completion of this building were untiring and his name will always be con-

nected with the successful issue of that project. He was gentle and self-sacrificing, and will always be remembered by his friends, patients and colleagues as a gentleman of the old school, who never found ministering to his patients a hardship but rather considered it a privilege.

Among his many contributions to medical literature were a paper on *Trichinosis*, published in August, 1879; an article on "*Complications and Sequelæ of Typhoid Fever*," published in the *Brooklyn Medical Journal* of December, 1889; and a few remarks on the "*Brandt System of Treatment of Diseases of Women*," published in 1892.

He was married, November 19, 1874, to Eloise Topping Worth, of Peconic, Long Island. His wife and three children survive him. At the time of his death Dr. Maddren was a vestryman at St. Peter's P. E. Church.

## MEDICAL NEWS.

**Long Island Society of Anesthetists**—The regular meeting of the Society was held at the County Society Building, January 20, 1909. The Report of the Committee on Anesthesia of the American Medical Association was discussed by the Society.

**School of Preventative Medicine**—Dr. Norman E. Ditman, of the College of Physicians and Surgeons, New York City, has been appointed Chairman of a Committee of Scientists to report on a plan to establish a School of Sanitary Science and Public Health. The object of its establishment is to perfect plans for the prevention of disease throughout the city; it calls for milk inspection, for pure water and ice supplies, public baths, tenement sanitation, adequate street cleaning, and cleansing of rivers and streams.

**New Insane Asylum**—Creedmoor, which was formerly the site of the State Rifle Range, is to be converted into a site for the buildings of the new Long Island State Hospital for the Insane. The site comprises 200 acres, all lying within the boundary of the City of New York. The group of buildings will consist of from twenty-five to thirty brick structures, and will probably take the place of the present Flatbush State Hospital located on Clarkson Street, Brooklyn. The new buildings are designed to accommodate over 2,000 patients who will be under the care of Dr. Dewing, the present Superintendent of the Flatbush Hospital.

The contemplated structures will consist of an Administration Building, dormitories, group for acute cases; group for chronic cases,



nurses' home, staff headquarters, tuberculosis pavilion, laundry, storehouse, barns, stables, etc. The institution will be a great addition to our facilities for caring for the insane.

**Bar Diseased Cattle**—It is likely that legislation will be introduced into the next session of the Legislature dealing with the importation into the state of tuberculous cattle, and also to prevent the use of the word "pasteurization" in designating milk that has not been properly pasteurized. Mr. Nathan Straus states that probably seventy-five per cent. of the cows rejected by other states are sold into New York for dairy purposes; the rest are so bad that no one will buy them and they are slaughtered for food. He uses this as an argument why New York should adopt the same regulations as the other states.

**Oysters Not Infected**—Dr. Darlington recently declined to accept the theory that infected oysters were the cause of typhoid fever in a number of patients who recently lunched together. He said that the inspection of oysters eaten in New York was most thorough and there could not be any possible danger from that source.

**Questions To Be Answered**—A member of our Society recently propounded the following questions:

How may the despised general practitioner be most profoundly hypnotized and converted into a faithful feeder?

How may an eye-man introduce his subject into the discussion of a paper on ectopic gestation?

**The Norwegian Hospital Alumni** Association of Brooklyn celebrated its 100th meeting with a dinner at the residence of one of the charter members, Dr. Sewell Matheson, 173 Underhill Avenue, on January 13, 1909.

In 1898 the first seven ex-internes of this hospital organized the society, meeting nine times a year, at the residence of members, in turn,

for both scientific and social purposes.

Its first president, Dr. Robert E. Coughlin, who was the first interne, has this year been elected again, and served as toastmaster. He is affectionately known as "Pop Coughlin." Of the eligible ex-internes to date, twenty-seven in number, one is dead. One member resides in each of the following cities: Milwaukee, Wis.; Syracuse, N. Y.; Newark, N. J.; Westerly, R. I.; Worcester, Mass.; Berlin, Germany. Three members are located in Manhattan. The complete list of ex-internes in order of seniority is as follows: Robert E. Coughlin, Edward D. Ferris, J. De Vere Barber, W. Carl Schoenijahn, C. Eugene Lack, Sewell Matheson, Theodore C. Guenther, Alphonse M. Bodden, Charles T. Estabrook, Lucian R. McCollom, Christian C. A. Lange, A. E. King, John H. Ohly, Bernhard A. Fedde, Paul E. Menk, Eugene W. Skelton, Arthur W. Day, Arthur H. Longstreet, Robert E. Moore, Walter G. Hirsemann, Louis Stork, Jr., Charles A. Eastmond, Jefferson B. Latta, David Livingstone, Hans G. Baumgard, William H. Baylis, Charles F. Stratmann.

During the evening the following toasts were responded to:

Humorisms—W. Carl Schoenijahn.

The Ideal Physician—C. Eugene Lack.

The Brooklyn Medical Man as Compared with His Brother in Manhattan—Sewell Matheson.

Canadian Echoes — Robert G. Moore.

More Humor—Louis Stork, Jr.

At the close of the dinner by common consent a silent toast was given to the Norwegian Hospital, its staff, the Sisters, and all who had to do with the hospital career of the individual members. The remainder of the evening was spent in listening to a delightful literary and musical program.

A committee of three, Drs. C. E. Lack, C. C. A. Lange, and A. H. Longstreet, assisted the officers and Dr. Matheson in arranging the de-



tails of the dinner and entertainment, especially the personal favors and souvenir menu cards.

The officers of the Association are as follows:

President, Dr. Robert E. Coughlin; Vice-President, Dr. John H. Ohly; Secretary and Treasurer, Dr. Louis Stork, Jr.

**Jewish Hospital**—The Conference Committee on Medical Matters will appoint in the near future an Associate Dermatologist to the Hospital. Applications for the position should be sent to Nathan S. Jonas, at the Jewish Hospital, Brooklyn, N. Y.

**Bill To Regulate Animal Experimentation**—Senator Davis of Buffalo introduced a bill, January 21st, for the control of animal experimentation. The chief points in the bill that are made prominent are that animal experimentation may be practiced only by those holding certificates issued by a college, hospital, or incorporated laboratory, or under the authority of the State Commissioner of Health. Reports of the number of operations would be required by the Commissioner. The bill also provides that the animal to be experimented upon must be under the influence of an anesthetic. Violation of the law is to be considered a misdemeanor.

**Health Department Physicians**—The attending physicians to the Tuberculosis Clinics have for a number of years carried on their duties without remuneration, with the understanding that as soon as possible a salary of six hundred dollars a year would be granted them. A certain number were appointed with a salary of three hundred dollars a year with the promise of an increase on January 1, 1909. On Christmas Day the following letter was received by these physicians:

No appropriation was made by the Board of Estimate and Apportionment in the budget for 1909 for the attending physicians to the Tuberculosis Clinics of this department. Your salary will therefore cease January 1, 1909.

### PERSONALS.

**Dr. I. D. Kruskal** announces that he has opened an office at 1504 Bedford Avenue, corner of St. John's Place, Brooklyn. Telephone, 382 Prospect.

**Dr. George F. Leyh** announces the removal of his office to 952 Bushwick Avenue. Telephone, 3512 Bushwick.

**Dr. E. F. Lindridge** has removed to 292 Clinton Avenue. Telephone, 2316 Prospect.

## TRANSACTIONS OF THE BROOKLYN GYNECOLOGICAL SOCIETY

*Stated Meeting, November 6, 1908.*

The President, H. C. Keenan, M.D., in the Chair.

### INTERPOSITIO VESICO-VAGINALIS UTERI.

A paper with the above title was read by SYLVESTER J. McNAMARA, M.D.

#### *Abstract of Discussion.*

DR. GEORGE McNAUGHTON said he was sorry the doctor did not say some-

thing about the prevention of these prolapses. He believed the obstetrician is at fault for a considerable number of them and that they might be prevented by a proper attention to the anterior vaginal wall at the time of the birth of the child, and by keeping the patients under constant observation for six months after birth and



also after the establishment of menstruation.

He stated that he had done this operation a number of times. One case died with peritonitis. It was one of the worst cases of prolapse he had ever operated on, and he determined to do this operation, the technic of which he learned from Watkins' article. This woman, instead of having a hypertrophied anterior vaginal wall, it was atrophied, and he had a great deal of difficulty in getting tissue enough to cover the body of the uterus. After it was in position, sloughing took place and infection and she died of peritonitis.

He recalled two other cases done by a member of this Society. At another he assisted. It was the fourth or fifth operation done to restore the uterus, and that was a failure. Some others have been entirely successful. He had in mind one case, a woman, a janitress, doing heavy work lifting, who has continued eighteen months after operation entirely well.

The speaker said there are a certain number of cases that will be restored by that means, but there are risks attending it and it is not always successful. One of these cases was operated on a second time, believing the fundus was too low down. It was hooked up a little higher with sutures, but the prolapse returned. He thought with careful study we might select cases that would be benefited by this operation. It looked feasible. In lifting the body of the uterus too high we may get too much pressure on the urethra or base of the bladder and get some vesical irritation as a result of it. This operation should not be done on women who expect to menstruate without at the same time removing the ovaries to put a stop to that function.

DR. C. JEWETT said the first thing that happens when the uterus goes down is a beginning backward displacement. The essential thing, therefore, in overcoming uterine prolapse is the maintenance of the uterine axis at nearly a right angle with that of the vagina. This is accomplished

by securing the fundus in a forward position and the cervix well backward. Both the anterior and the posterior ligaments may be shortened. For shortening the anterior ligaments he relied most on the Webster operation. The cervix may be held in the hollow of the sacrum by shortening either the retro-uterine or the uterosacral ligaments. He had had most experience with the former after the method of Bishop.

This posterior operation must be done before operating upon the round ligaments. The fundus is drawn well up over the pubes. The field is held up by means of a staff in the vagina, lifting the posterior fornix. Each peritoneal fold of Douglas is caught one-third or one-half the way from the uterus, a bit of peritoneum is snipped away at this point, and it is stitched to the peritoneum and fascia at the upper part of the sacrum with care to avoid injury to the ureter and iliac vessels. The adhesion of peritoneum to cellular tissue is very firm. Many of these operations, not all, have succeeded. If the operation is done upon the uterosacral ligaments each ligament is exposed by a peritoneal incision along its inner margin, the ligaments folded and sutured and the peritoneal incisions closed.

Extreme forward fixation of fundus to vagina as contemplated in Dr. McNAMARA's paper he had seldom practiced. The operation was not suited, of course, to child bearing women. It complicates a subsequent pregnancy more seriously than does ventrofixation.

In women past the menopause he got good results with vaginal hysterectomy. The broad ligament stumps are securely sutured to the vaginal walls and no vaginal prolapse follows. The round and the uterosacral ligaments may also be utilized for further support.

Anterior wall work he had done much more frequently for cystocele than for procidentia. The essential features of the operation for cystocele are to be credited to Hadra of Texas. The speaker had reduced the matter



to a more definite technic than when he reported this work a year or more ago. He catches a longitudinal fold of the vaginal wall at its reflexion upon the cervix, snips the fold crosswise, then pushes blunt pointed scissors up between the vaginal wall and the bladder, hugging the former to avoid injury to the bladder. The scissors are carried up to a point within half or three-fourths of an inch of the meatus. Then the blades are spread and the vaginal and bladder walls are separated, not wholly, but mainly. The loosened vaginal plate is divided with scissors in the median line from below upward. Then he seizes the edges of the vaginal wall with hæmostats and dissects off the remaining attachments of the bladder to the vaginal wall with a gauze compress, scissors sometimes being required. The bladder is detached from the uterus in the usual way and pushed up. Very little of the vaginal plate should be cut away on each side, most where most redundant. It is a mistake to resect too much, since this draws the uterus bodily forward. In most cases it is sufficient to suture the vaginal wall to the uterus at a point just above the isthmus. Such a fixation would not complicate subsequent pregnancy. In marked cystocele he has attached the vaginal plate to the uterus at a point half way from the isthmus to the fundus. Two chromated catgut sutures hold the uterus to the vaginal wall, the fascia being included in the sutures. The latter are caught in each lateral aspect of the uterus to give a broader support for the bladder. Below these two fixation sutures he thought it better not to include uterine tissue in the sutures. To prevent accumulation of blood in the dead space a strip of rubber tissue is passed up behind the suture line, between uterus and vagina. The advantage of leaving vaginal wall below the fixation point unattached to the uterus is that the wall better finds its proper relation to the uterus. The suturing as well as the dissection is facilitated by holding the uterus well forward at the vaginal

orifice by means of the traction forceps caught in the cervix and a finger in the vagina behind the uterus.

Uniting the uteropelvic ligaments in front of the cervix after the method of Dudley with a view to holding the cervix upward and backward while theoretically sound had not succeeded well in his hands.

Prevention of injury to the anterior vaginal wall during labor in the manner mentioned by the last speaker would, he thought, be difficult if not impossible. The head has descended so far at the time when the damage is done that the fingers could hardly be passed between the head and the pubic bones to support the vaginal wall.

DR. J. O. POLAK stated there was one point he wanted to impress particularly: That this operation is one that ought not to be done except in women past the menopause. There was no question in his mind from the limited experience he had had with the operation, that it relieves a procidentia in a large proportion of selected cases. It certainly is better than hysterectomy, particularly vaginal hysterectomy. It was interesting to note the subsequent prolapse and cystocele that follow vaginal hysterectomy. It has proven better in his hands than the previous operations which have been done for prolapse, *i. e.*, intra-abdominal fixation, suspension, etc. In doing this operation in a parous woman, we produce a vaginal fixation, and statistics are not favorable to child bearing, in women who have been the subjects of previous vaginal fixations.

The speaker suggested two points in the operation different to the technic suggested by the essayist. In the method of denudation he found considerable advantage in making a T-shaped incision, in that way he was able to get further over on to the broad ligaments and also get rid of more flap, secondly he preceded the operation by a high amputation of the cervix, and then attempted to bring the broad ligaments in front of the stump of what was left of the cervix,



anteverting the uterus and sewing the fundus and body to the vaginal wall.

DR. WILLIAM P. POOL had done one case after practically the same technique described by Dr. Shoop. The operation was of too recent date to predict with certainty the ultimate result, but at the present time the chances of complete restoration seemed good. In his experience, with a number of cases operated after the manner mentioned and criticised by Dr. Jewett, while the fundus had been brought well forward there was a tendency to drag the cervix forward also. This defeats the object of the operation which is to restore the normal relation of the axes of the uterus and vagina. The reattachment of the bases of the broad ligaments in front of the cervix seems to be a valuable aid in carrying it back into the hollow of the sacrum.

The speaker thought that in many cases of long standing where there had been extensive injury and much degeneration of tissue, plastic work should be supplemented by intra-abdominal operation. After restoring the anterior wall, and applying some method, preferably that of Holden, to the pelvic floor, the operator will sometimes be justified in shortening the round or broad ligaments, or even in ventro-fixation. Plastic work alone is not sufficient in all cases.

DR. J. F. TODD thought the point made by Dr. McNaughton was of a great deal of importance. The teaching of most of the text-books has been regarding care in protecting the posterior vaginal wall during labor. Dr. Baldwin was the first to call his attention to the fact, that it was more important to conserve the anterior vaginal wall. All the operations directed to the perineum were successful, or in a measure successful, but that the operations employed on the anterior wall were not so. If more care was taken in the pushing up of the cervix over the advancing head, preventing the bladder and anterior wall being pushed down before it, we would not have so much plastic surgery. In complete procidentia with

accompanying cystocele and rectocele, it has been the custom at St. Peter's Hospital to employ the operations of Dr. Emmet. While they may not be permanently successful in all cases, the patients at least leave observation apparently cured.

In hospital practice it is difficult to keep track of patients for a sufficient length of time to know of their permanent relief and we do not see our failures, but certainly neither in private nor hospital work has any one come back to us with a return of the prolapse. The key note seems to be the ability to keep the cervix in the hollow of the sacrum and certainly this is accomplished by the Emmet anterior colporrhaphy. These patients menstruate normally. Nothing has been removed to incapacitate them from child bearing or from earning a livelihood if necessity requires it.

DR. A. M. JUDD said he had done most of the plastic operations laid down in the books. He had failures with them all and a few successes. The operation that gave him the greatest success had been the Emmet. Contrary to Dr. Todd's and Dr. Baldwin's experience he had some failures with the Emmet operation. In 1907 he took four carefully selected cases and performed the operation Dr. McNamara described and had followed these cases up to the present time. The technic of denudation he did according to the method described by Dr. Jewett by making a transverse incision in the vaginal wall just in front of the cervico-vaginal junction, and by means of curved scissors separated the vaginal wall from the bladder. He then used straight blunt scissors in making an incision from the middle of the transverse incision previously made to a point just back of the meatus and then stripped up the bladder, breaking through the peritoneum, bringing the fundus down and fitting the vaginal wall over it, removing such a triangular piece with the base toward the cervix as he thought would make a good fit afterward, and he attached that vaginal wall two-thirds of the way up



the anterior surface of the body of the uterus. He thought in that way he had overcome the fault mentioned by Dr. Pool of bringing the cervix too far down toward the entrance of the vagina. Every one of these cases had been a failure. One of them he operated on a second time and the second operation had been a failure. The result of the operation had been that the uterus had simply become anteverted and the fundus had come down over the perineal body. He thought in the future this operation might be combined with some intra-abdominal work, particularly upon the uterosacral ligaments. He did not see how you could well do a ventro-suspension. The operation in his hands was an absolute failure.

DR. L. G. BALDWIN stated that he did not have the pleasure of hearing the paper read, but from the discussion gathered the drift of what the paper was. In doing the modification of the Emmet operation for complete procidentia, that he never had any failures he would not say by any means. We have failures in all our operations, he said, but in the main he had succeeded in keeping the uterus in an anteverted position, the cervix in the hollow of the sacrum and the cystocele cured. There was no question about that, he stated. That could be demonstrated in dozens of cases five, six and more years after. There was no question about the success of that means of curing procidentia.

In regard to the operation described in the discussion, he had only seen one case after the operation. That was done by Dr. Goffe, and the patient suffered a great deal of pain following it. She was more incapacitated, she said, than before the operation, and he regretted to say she would not submit to any further surgical procedures.

DR. A. M. JUDD said all these cases have many bladder symptoms, such as frequent urination, and he thought that possibly traction on the upper end of the urethra has produced a

bending of the urethra in some way, making it difficult for these patients to empty their bladder, and they must have more or less retention of urine after this operation.

DR. S. J. MCNAMARA stated that in his personal experience he had seen cases go from the hospital after high amputation with an anterior denudation and posterior repair, and in the standing position the uterus would be hard to feel, two years afterwards the uterus was extruded through the vulva. That had not only been his experience, but he had seen cases coming to the County Hospital after being in the hands of other operators, and probably these results, as well as many of his own failures, had driven him to seek something in the way of this operation.

Cystocele, he said, was exceedingly difficult to cure. He had seen cases operated on by men well fitted to do the work, and the patient still not benefited. This operation was not a panacea for all troubles, but it appealed to him as rational anatomically, and cured with the least amount of traumatism, with the least amount of mutilation to the woman, and the position of that uterus is at a place where it can not help but be a benefit to her. As regards the vesical symptoms, he did not know that they were any more numerous than those coming on after other gynecological operations.

As regards prophylaxis, undoubtedly that is a very important part of our teaching. It seemed to him it is not so much the lack of attention at the time of the birth as the lack of attention in the puerperium. The trouble is women get up too soon after confinement, and he believed that is the first step in prolapse.

He could readily see the way Dr. Jewett makes his incision is important in the technic to save time. The work on the retro-uterine ligaments is difficult. These ligaments are not always strong enough to do any work on. They are hard to suture. In other cases they are well marked and can be readily shortened,



# TRANSACTIONS

## OF THE

### BROOKLYN PATHOLOGICAL SOCIETY

487th *Regular Meeting*, October 8, 1908.

The Vice-President in the Chair.

Edited by CLAUDE G. CRANE, M.D.

#### INFLUENZA WITH ACUTE MYOCARDITIS.

EDWARD E. CORNWALL, M.D., reported the following case:

The patient, a man of 22, was sent to the Norwegian Hospital with a diagnosis of possible appendicitis. His previous history was as follows:

Always well up to about three weeks ago, when he suddenly became ill with headache, prostration, pains in body generally but particularly in stomach and radiating to the back; had much gas in stomach and occasionally sour eructations; bowels regular; the prostration continued, and also the pains, which seemed at times to be located in the left side of the abdomen, and thus gave rise to the suspicion of appendicitis.

Admitted to the Hospital, Surgical Division, service of Dr. Ferris, March 29, 1907.

*Physical examination* on admission. Patient is anemic, with a listless expression, sunken eyes, coated tongue and foul breath; lungs negative; heart sounds feeble, but no murmurs heard; liver and spleen not enlarged; temperature  $100^{\circ}$ , pulse 100, respirations 20.

Patient complains of pain in the precordium and upper part of the abdomen; is very restless and says he feels as if he were choking.

*March 31.*—For past two days patient has been very restless and even delirious at times; cries out that he is dying, and presses his head to his precordium as if in agony; temperature between  $100^{\circ}$  and  $102^{\circ}$ , pulse small and weak.

On this day I was asked to examine the patient, and found nothing significant except very feeble heart action

with impurity of the heart sounds. I thought the trouble, whatever it was, had its location in the heart.

Patient transferred to the Medical Division (my service).

*April 3.*—The patient's condition has grown steadily worse during the past three days. He has become entirely irrational or delirious and refuses to take nourishment. Several times he vomited green fluid. He still occasionally seems to have pain in the upper part of the abdomen, but the distress in the precordium appears to be constant.

*April 4.*—Patient was delirious all during the past night, and seemed to suffer distress in the region of the heart. His pulse grew weaker and more irregular, and finally ceased in the early morning.

*Autopsy* by Dr. Storke showed cloudy swelling of the myocardium and a firm white clot attached to the wall of the right auricle and a flap of the tricuspid valve, and thence extending in the form of a slender flat tongue, as wide as the middle finger, through the cavity of the right ventricle, and through the pulmonary orifice, and into the pulmonary artery for a distance of nearly an inch. Nothing else of pathological significance was found.

#### BACILLUS AEROGENOUS CAPSULATUS INFECTION.

DR. E. ARTHUR PARKER spoke of a man, 40 years old, who March 26, 1908, while working on a building was hit on the head by an iron girder and knocked to the ground, a distance of thirty feet. He sustained a compound, comminuted fracture of the orbital plate of the left frontal bone,



compound, comminuted fracture of the tibia and fibula of the right leg in its lower third and a punctured wound of the left forearm in its upper third about two inches below the elbow joint.

The opening in the scalp was enlarged backward over the temporal region two inches. The flap was separated and pieces of bone removed, one of which was the external angular process of the frontal bone. Wound closed without drainage.

*Right leg.*—There were two small openings where the bones were protruding. These openings were made into one, and the incision enlarged inward and downward. Three fragments of bone were removed. The ends of the tibia were brought together and wired.

Three days later the wound of the left forearm was found to be infected. A wet formalin dressing was applied by the House Surgeon. Two hours later there was crepitation in the tissue below the wound and above same to within one inch of the elbow joint. Gas bubbles came out of the wound on pressure. Smears of the secretion from the wound and of blood taken from the finger showed streptococci and the capsule bacillus. Toward evening the crepitation had extended to the deltoid. Temperature 101 2-5 degrees.

An incision made in the forearm showed deep involvement by the gas bacillus. Free, dark, brown pus, full of gas, was shown, and the muscles were soft and mushy and tore readily. A circular amputation three inches down on the humerus was done. Peroxide was used, then pure carbolic and alcohol. The open wound was treated with a wet formalin dressing. An intravenous injection of one ounce of 1½ per cent. colloidal silver solution was given in the other arm. Next day another injection of the same solution.

Three months later the ends of the tibia becoming necrosed, one-half inch was removed and the ends brought together with silver wire. The wound

was left open. Ten days later this operation had to be repeated.

July 3, 1908, the bones having united, the patient while asleep suddenly jumped in bed and caused a separation of the fragments.

July 24th, the stump of the humerus having necrosed, disarticulation of the humerus was resorted to under cocaine anesthesia, one-fifth of 1 per cent. Wound open.

October 8, 1908, stump of arm healing. Tibia not united, some pus discharging from the still open wound. Firm union in the fibula. General condition good.

DR. THURSTON H. DEXTER said he saw a case of malignant edema that died and the bacillus was demonstrated. He had never seen the encapsulated bacillus. Most of the cases die, and he wanted to know the method used to demonstrate the bacillus. He said one can not make a diagnosis on the slide showing an encapsulated bacillus only, but it has to be demonstrated by culture tests without oxygen showing the formation of gas. He believed one could get crepitation with malignant edema and other gas-forming bacilli. He thought the cultivation of the encapsulated bacillus is important for the differential diagnosis. If you have a section of tissue, as the liver, he said, showing gas bubbles or air spaces surrounded by a capsulated bacillus, that would be quite as positive evidence as cultural tests showing the presence of gas. The speaker thought the methods of demonstrating the bacillus that causes infection with the production of gas is an important factor in a subject which has met with so much consideration of late, and which is comparatively new.

DR. JOSHUA M. VAN COTT agreed that it is not possible to state with definite certainty that the bacillus aerogenous capsulatus was present in this case; and yet if it had been the bacillus of malignant edema, that organism should have been found. Gas formation is not common, he said. You do not get crepitation or emphysema in malignant edema. This apparent-



ly was a mixed infection with the streptococcus and the capsule bacillus, and yet he believed the conclusions are not absolute; the finding of the bacillus with crepitation makes it fairly certain that it was present with the streptococcus. Putrefactive organisms make gas only after death.

**SIGNIFICANCE OF PAIN IN THE LEFT LOWER QUADRANT OF THE ABDOMEN.**

A paper with the above title was read by Dr. James Taft Pilcher.

*Discussion.*

DR. EDWARD E. CORNWALL said there was one pain in that quadrant, which he had met with once, which was not touched on in the paper. A young lady consulted him for a sharp pain in the left lower quadrant. Her sister a short time before had been operated on for appendicitis and died. He effected a complete cure by telling her she had guessed the wrong side.

DR. JOSHUA M. VAN COTT said there was one thing which struck him when the reader was talking. He had seen a number of post operative cases where the pelvic region was involved, where sigmoiditis supervened. What the essayist said explained the fact that so many women after operation complain of pain in the left pelvic region. The operation may be anatomically and pathologically successful, and yet a nidus of trouble be left in the sigmoid and in the peri-sigmoid structures.

DR. MARTIN L. BODKIN thought the only thing the speaker omitted to say was the fact that it is a comparatively easy thing to find out whether the patient has a chronic sigmoiditis. He had only seen three cases of the acute type, but the chronic variety is a common disease. He thought that if the stomach men would only take the time to examine many of their cases of colitis, they would find that they were sigmoiditis instead of a mucus colitis. The acute variety you can not very well examine with the sigmoidoscope, but in the chronic and atrophic variety there is hardly any excuse for a man making a mistake. The hypertrophic is the more common form; the atrophic

is due to syphilis as a rule. In the hypertrophic variety the mucous membrane will sometimes hang over the end of the sigmoidoscope so as to almost suggest malignancy, but it clears up with treatment. With the hypertrophic there is continual pain and soreness and complaint on the part of the patient. Some are very much constipated and have a recurrent diarrhea alternating with constipation and they pass mucus and blood. One of the most characteristic symptoms is the early morning diarrhea. Nearly all cases complain of that at one period or another; sometimes in the female it is associated with the menses, undoubtedly due to some nervous disturbance. Along with that you often get the complication of proctitis, which is more common than an inflammation of the colon. He thought ulceration is not as common as one would think. The hypertrophic condition does not go on to ulceration as frequently as one would expect.

The follicular variety seems to be nothing more than a lot of small ulcers in appearance resembling a follicular tonsillitis. He thought because diverticulæ and appendices epiploicæ extend as low as the sigmoid that they were quite a common cause for a perisigmoiditis of the acute variety. It seemed they form a nidus for supuration.

DR. JAMES PILCHER said that relevant to the paper just read, an interesting remark had been made to him that a short time ago a diagnosis was made by one of the members of an acute diverticulitis of the sigmoid; on operation it was found that the appendix was prolapsed over into that side of the abdomen, and it was an inflammation of this that gave rise to the similarity of symptoms. He feared that possibly he was a little too general in the scheme of his discussion of sigmoiditis; however, any too minute differentiation of the condition would have made the paper too long and therefore no differential diagnosis—of which many points may be brought up—was undertaken. This apparent oversight and its consideration was taken up by Dr. Bodkin.



# TRANSACTIONS

## OF THE

### BROOKLYN SURGICAL SOCIETY

*Regular Meeting, October 13, 1908.*

The President, C. H. GOODRICH, M.D., in the Chair.

#### SUB-DURAL HEMORRHAGE.

DR. O. A. GORDON stated that his patient was a man 28 years of age, who was brought to St. Mary's hospital in the ambulance and admitted to his service June 6, 1907, suffering from a scalp wound and an extensive hematoma on the right side of the head as the result of a fall from a truck. Soon after admission he began to have convulsions, which occurred about every hour at first, increasing in frequency to one every twenty minutes, during which the head was turned sharply to the right; pupils contracted, the right more than the left. The spasm was principally limited to the right side, at first tonic, the thumbs being turned into the palm and the arm flexed. This was followed by the clonic stage, the right side shaking violently, the convulsion lasting from three to five minutes. No fracture was found after careful examination. From the fact that the convulsions were limited to the right side, it was decided to trephine over the motor area of the left side.

June 9th, under ether anesthesia, a button of bone about one and a half inches was removed; the dura which bulged into the opening was incised and a large clot seen, most of which was extruded by cerebral pressure, the remainder being washed away by irrigation with normal salt solution. The edges of the dura were lightly drawn together by fine catgut and a small drain of iodoform gauze inserted.

The reaction was fairly good. About three hours after the operation the patient had a slight convulsion, but none since. Temperature ranged from normal to 100.8 degrees for a few days only. He suffered from

paraphasia for a week or two, after which his recovery was uneventful. At present he is engaged at his regular occupation—a blacksmith.

DR. A. H. BOGART said it was interesting to know why one case of subdural hemorrhage should have convulsions and another develop paralysis. Four weeks ago a jockey at the race course was thrown from his horse and taken to the Reception Hospital. He became unconscious almost immediately, and within half an hour became paralyzed on the left side of his arm and leg. This paralysis deepened until it was complete and he was unconscious. He put a trephine over the motor area in this case at the other side and found a subdural hemorrhage. He opened the dura and considerable free blood escaped. This patient is now making an excellent recovery. He cleared up entirely within a week and his paralysis is almost gone now. This case developed paralysis as a result of injury and had no convulsions.

An interesting point is the differential diagnosis between a case of this sort and hemorrhage from the middle meningeal artery. He supposed the point of the period of consciousness would be an important one, but the picture is identical with that exception. Of course, there is not much you can do.

After opening the dura there was a little spurting of a vessel, but he controlled that and passed a curved scissors under the dura and whatever blood was there oozed out. He introduced a drain and it drained out. There is not much to be done to check hemorrhage, the speaker said, nor did it seem to be necessary in his experience.



# **PYONEPHROSIS WITH STONE IMPACTED IN THE URETER.**

DR. J. E. JENNINGS said that his patient was a married woman, 42 years old and the mother of nine children. Two and a half years ago she was seized with severe pain in the left side on a level with the anterior superior spine and about three inches toward the median line. The pain lasted but an hour when it was relieved by morphine, and was repeated in succeeding attacks. The early pain was said to radiate downward to the bladder; that of later attacks had not done so.

Examination showed a mass deeply situated in the left loin in the situation of the kidney, fixed and not tender. There was an area of well marked tenderness at the site of pain. Vaginal examination was negative.

Cystoscopic examination showed a small actively contracting bladder, moderate congestion of trigone, more marked on left side. The left lateral orifice was large and patulous, not edematous, but very much elongated. The right orifice was slightly elongated and the lips somewhat edematous.

July 31st both ureters were catheterized. The urine from the left side showed a large amount of albumen and pus. The catheter was unfortunately pulled out of the right ureter before sufficient urine was obtained.

August 3d an X-ray plate was obtained showing shadows along the path of the left ureter.

August 4th the right ureter was catheterized, a faint trace of albumin and no pus was found.

August 5th operation. An incision from below the ribs on the left side downward and outward parallel to the crest of the ilium about nine inches long, carried down to the peritoneal fat, and a hard mass palpated at the pelvic brim. This was reached behind the peritoneum, and found to be a stone impacted in the ureter. The ureter was freed, ligated below the stone, cut, a probe passed down the lower segment into the bladder and this end tied. The kidney was found

a bag of fluid, and it was decided to remove it with the ureter down to below the stone, if possible, without opening it and in one piece. This was done. The kidney was adherent but stripped out without rupture. The wound was closed with large sutures of chromic catgut. There was a deep fat infection, but it has now almost entirely healed. Dr. Eastmond took a radiograph of the other kidney, which he says is negative, although there has been a little pus in the urine since the operation, which the speaker thought came from the trigonitis.

# **COMMON DUCT GALL-STONES WITH CHRONIC PANCREATITIS.**

DR. J. E. JENNINGS, reporting this case, said that his patient was an iron-worker, 56 years old. Seven years ago he was sick for six weeks. During that time he had eight or nine attacks of pain, sudden in onset, radiating to both sides and up to the right shoulder and to the middle of the back, the pain traveling around. These attacks lasted about two hours. There was no pain or jaundice for six years until four months ago. Then came the same pain in the same place and the same jaundice. These attacks have increased in frequency and severity, each attack lasting twelve to eighteen hours, agonizing pain with sweating, etc. There was vomiting in only one of these attacks.

Examination showed only a very little tenderness on very deep pressure over the gall bladder region.

Operation. Incision through the right rectus with Mayo Robson cut in fascia at upper angle. A long narrow adherent gall bladder, full of stones (90) was found. The cystic, hepatic and common ducts were full of stones. The stones found impacted in the common duct were pushed back into the cystic duct and removed. After removal of all the stones the gall bladder was removed, a tube being sewed into the stump of the cystic duct. The head of the pancreas was found very much thickened and quite firm and nodular.



The convalescence was uneventful. Cammidge's reaction was found positive three days after operation. Tested again October 10th, still positive. The patient was out of bed on the eleventh day.

#### NEW OPERATION FOR VARICOSE VEINS.

DR. J. E. JENNINGS said that the operative surgery of varicose veins of the lower extremity was greatly advanced by Trendelenburg's demonstration of the reflux from the deep to the saphenous veins at the saphenous opening, and by his method of tying the veins in the middle of the thigh. The experience of many operators showed that ligature close to the opening was more satisfactory, because it did not leave room for anastomosis between the ligature and the opening of the vein. This is the operation now most frequently done and called by Trendelenburg's name.

The most pronounced effect of varicose veins, the speaker said, are felt lower down, and the fact that the saphenous has several communications with the deep veins, and that when its upper valves are incompetent, it will make all the lower ones insufficient too. These considerations make the extirpation of the saphenous desirable. This object had been sought by the operation done by the Mayos, to which after high ligature, the vein is threaded through a ring on the end of a handle, and this is pushed down the vein, stripping it from its bed and its branches for a distance of 12 to 14 inches, the saphenous breaking at or above the knee.

In some cases this is enough, but in others where the anastomosis above the knee, between the external and internal saphenous are full, the result is not all that could be desired.

The operation the speaker was about to describe had the following advantages:

1. It removed the vein entire.
2. It leaves but little scar.
3. It saves time.
4. It is much less bloody than the Mayo method.

*The operation.* The foot is placed on a sand bag with the heel elevated about eight inches. A sterilized Es-march bandage is lightly tied as high up on the thigh as possible. The internal saphenous is found as low down as possible, preferably where it crosses in front of the internal malleolus and cut down upon through a small longitudinal incision. Through this the vein is lifted up, clamped and cut, and into the lumen of the proximal end of the vein a twister is inserted and passed up inside the vein as far as it will go. This will be somewhat below the knee, where it is felt through the skin and cut down upon. A clamp is put on the vein above the end of the traction and the vein cut, a ligature just below this is passed through the walls of the vein, and the hole in the end of the tractor is tied around the vein and instrument. Then the end of the vein is twisted and pulled back, so as to invaginate it into its own lumen, through which by torsion and traction it is removed.

The process is then repeated above, passing the tractor from below upward, and in this way the entire vein is removed.

In a dozen or so cases he found that it is better to pass the tractor from below upward, as it does not then engage in branch veins. The twisting of the vein in its removal is a great help in some cases, and the ease with which veins are removed will vary. The hemorrhage is not marked, especially when the vein is twisted out, and is easily controlled if present by a light roller from the toes up.

DR. C. H. GOODRICH said some Western surgeons recommend that in every case of pancreatitis, where there is no indication for excision, that the gall bladder be drained as a matter of rational treatment.

DR. W. C. WOOD wanted to know why Dr. Jennings removed the gall bladder and did not drain it.

DR. J. E. JENNINGS replied that he took out the gall bladder because it was thick and adherent, and probably



would be the seat of disease if allowed to remain.

DR. R. W. WESTBROOK was interested to hear that the Cammidge reaction was found twice. He wanted to know if any one had any degree of success with the reaction. With Cammidge it is a source of accurate information, but he did not know that the same result was achieved by other people.

DR. W. C. WOOD said that in a series of cases where the Cammidge reaction had been made by Dr. Roberts of this city, in which he had afterwards operated, it had proved to be accurate both in its positive and negative features; in other words when the Cammidge reaction was not found there was no enlargement of the pancreas found, and when the Cammidge reaction was found, enlargement of the pancreas was found.

In connection with this case, he said, it is interesting to note that at this time this patient of Dr. Jennings showed the Cammidge reaction. In that connection he thought it well worth noting the apparently short time in which the biliary tracts were drained. It is a fair question for consideration if it seemed best in this case to leave the gall bladder; the action of its removal he would not question. If the gall bladder had been more healthy and the drainage had been prolonged three or four weeks through the gall bladder, the chronic pancreatitis would have subsided.

#### CARCINOMA PENIS. AMPUTATION.

DR. J. R. KEVIN stated that his patient was 54 years old, and denied venereal disease. Eighteen months ago he was circumcised. About two months later he noticed a pimple at the end of the glans penis, which enlarged. He brushed it off, and two or three months afterward noticed a newer growth. Three months ago he noticed the enlargement of the glands in both groins.

Operation, September 20. A small rubber tube was tied at the root of the penis. A dorsal skin flap, semicircular in shape was dissected upward, and the penis amputated. Af-

ter removing the tube and ligating the vessels, the flap was sutured in position, the stump in the urethra being secured to the opening in the flap. Both inguinal regions were involved. Many enlarged glands were present. The usual incision on either side was made and the glands removed. The patient was catheterized for three or four days to prevent the soiling of the parts. An uninterrupted recovery has occurred.

#### FIBRO-MYOMATOUS POLYPUS OF THE VAGINA.

DR. J. C. KENNEDY, reporting this case, said the patient was 42 years old and had had three children, the youngest 16 years. Two and a half years ago he removed from this patient's cervix, a pedunculated polypoid myoma about the size of a duck's egg. In February of this year she began to have vaginal hemorrhages which continued up to June when she again presented herself for treatment. Examination showed the vulvo vaginal space to be completely filled up with a bleeding mass, which on first sight was readily taken for a sloughing uterine Polypus. With some difficulty the finger was passed to the cervix, which was found to be unobstructed. The Fibro-myoma, which he showed as attached to the posterior vaginal cul-de-sac, was removed at the expense of some little time and trouble. The stump was cauterized and the vagina carefully packed. The microscope showed this tumor to be a Fibro-myomatous polypus. Authorities agree that they are somewhat rare and start from the connective tissue around the vagina or its muscular wall.

The interest in this case is the infrequency with which this character of tumor occurs deep in the vaginal canal.

#### GOITRE UNDERGOING SARCOMATOUS DEGENERATION.

DR. J. C. KENNEDY said this patient, 57 years old, about May, 1908, came to his office for advice concerning a tumor in her neck which she had had for about thirty years, but



which had within the last twelve months taken on a very rapid growth and at this time was interfering considerably with deglutition, causing pain and producing slight tachycardia. On examination, a large right sided goitre was much in evidence causing a very noticeable deformity, dipping somewhat below the right clavicle, not as movable as most operators would desire. The goitre was removed June 3, 1908, at St. Catherine's Hospital after the method of Kocher, his symmetrical transverse incision, however, being made lower down because the goitre dipped somewhat within the thorax. The incision was just above the clavicle and episternal notch rather than just below the cricoid cartilage, as is the case when the goitre is entirely in the neck and fairly high up. The goitre was removed in the usual way. Tying the superior and inferior thyroid arteries together with some superficial veins did not prevent, however, a fair amount of oozing of blood which compelled us to pack with iodoform gauze part of the wound. The removal of the packing in two days found slight oozing still in progress, which required further packing for a week, after which the recovery was uneventful.

About October 1st, there was again noticed an enlargement in the right side of the neck about on a level with the cricoid cartilage. Because of the pathological findings in the goitre previously excised, he became somewhat anxious; hence this tumor was removed on October 6, 1908, by enucleation because of its firm attachment to the trachia. It had all the appearance of an accessory thyroid and was as large as a hen's egg. The pathological findings in the goitre proper as given by Dr. Raymond Sullivan were as follows: Gross pathology thyroid gland enlarged and densely fixed by strands of new connective tissue. On section there is a central node or mass, which is very hard and bony-like in consistence. Microscopical examination—section shows considerable colloidal degeneration with formation of new tissues

made up of fibrous bands and small round cells with occasional spindle cells.

*Diagnosis.*—Parenchymatous thyroid, with colloidal and sarcomatous degeneration. Von Bergman states that sarcoma and carcinoma develop usually in a thyroid gland that is affected by goitre—that malignant disease of the thyroid is comparatively rare and that the etiology is little known.

The points of interest then are: 1st. That this goitre lay dormant for a period of twenty-nine years, then within a period of twelve months enlarged with great rapidity so much so that it caused marked pressure symptoms. Secondly, the colloid degeneration becoming infiltrated with sarcomatous cells. Thirdly, the great rapidity with which the accessory thyroid enlarged within a space of fourteen weeks.

The inference is that the very recent and rapid enlargement in this goitre which caused the patient so much distress was the same as to time with the sarcomatous invasion.

DR. R. W. WESTBROOK thought Dr. Kennedy's case illustrated the value of removing goitres of moderate size, which are not making symptoms in earlier life. This case was quiescent 29 years. The speaker spent a little time in Mayo's clinic, and was surprised to see the large number of goitres coming into Dr. Charles Mayo's hands. Many of the goitres were moderate-sized cystic goitres, on which he did not hesitate to operate. He felt it was the best to operate on them chiefly because of the possibility of their developing exophthalmic symptoms; and this case shows also the possibility of malignancy later on.

The doing of operations on goitres as a last resort is apparently considered a mistake there, and the speaker thought many surgeons were inclined to let goitres alone, which are making few or no symptoms; but their feeling is that it is better to get rid of them, and it may be a good plan to follow.

DR. B. B. MOSHER wanted to know



whether local or general anesthesia was used. He saw some of Kocher's work on the thyroid, and he did the operation without general anesthesia.

DR. W. C. WOOD said concerning malignant disease of the thyroid in this connection it might be well to say that last fall he made a probable diagnosis of malignancy of the thyroid and removed the enlarged lobe and isthmus as microscope showed it was an adeno-carcinoma, he expected there would be a return of the disease. Up to this time the man is in excellent health with no sign of any recurrence of the malignancy. He had not seen enough of malignant disease of the thyroid personally to know that could be expected. Here it is a year since the thyroid was removed and only a small portion of normal gland was left.

It is his custom to remove all goitres under local anesthesia. The last one he removed, however, was for a deep goitre, which he removed under general anesthesia.

The way they do with goitre cases in Rochester, the speaker said, is no criterion for us here. They are most expert, and he knew no operation which required more care and skill than the average operation for goitre, and he did not think it an operation that should be advocated as a preventative. In the hands of the average man we should only operate for symptoms, not for cosmetic effect and not for precaution.

DR. J. C. KENNEDY said he always used general anesthesia. He puts the patient almost in a sitting position. He did not believe a man could work as well under cocaine as general anesthesia, and thought the latter practically safe.

#### NEPHROLITIASIS.

DR. J. H. LONG related the case of a civil engineer, 31 years old, who two years ago had an attack of acute abdominal pain, which was diagnosed as renal colic. The pain was on the right side and lasted for three hours. The urine for several days after the attack was bloody.

At the present time he has occasional persistent pains in the back on the right side just above the crest of the ilium, with tenderness anteriorly and posteriorly over the lower pole of the right kidney.

April 23d an X-ray plate by Dr. Eastmond of both kidneys, ureters and bladder, showed a dense calculus the size of a pea in the lower portion of the right kidney, with possibly more stones at the same level nearer the cortex.

May 11th, operation at the Brooklyn Hospital. A right lumbar oblique incision was made. After the kidney was exposed it was split from the upper to the lower pole, and a rough oxalate stone the size of a small pea was removed from the pelvis. Search and palpation of the parenchyma for a urate stone were negative. The kidney wound was closed with mattress sutures. The lumbar wound was closed with two cigarette drains down to the kidney surface. The recovery was uneventful.

Two and a half years have elapsed since the operation, during which time there has been no recurrence of the pain, and repeated examinations of the urine have failed to reveal blood cells. The patient is urged to drink water freely, and when he does this no oxalates are present. Occasionally when he becomes careless, or is afraid of the drinking water at the various places where his business takes him, calcium oxalate crystals appear. These promptly disappear when the consumption of water is increased.

#### ARTHRITIS DEFORMANS.

DR. J. H. LONG said that his patient, a lady, 74, gave a rheumatic history, and had enlarged finger joints. For the last three years the pain and stiffness in the left hip had been increasing. She had taken all kinds of anti-rheumatic remedies without benefit.

An X-ray plate by Dr. Eastmond showed absorption of the cartilages on the head of the left femur and



acetabulum and osseous deposits on the brim of the acetabulum and neck of the femur.

#### **FRACTURE SCAPHOID (CARPAL).**

DR. J. H. LONG, exhibiting a radiograph of this case, said the patient was a boy of 15, who about two weeks ago, while playing, hurt his left wrist, and was unable to use it on account of the pain. There was a swelling posterior with tenderness anteriorly and posteriorly.

An X-ray plate showed a fracture with impaction of the lower end of the left carpal scaphoid. The wrist was immobilized with splints.

Seven weeks after injury patient discarded splints and went to work. Pain, swelling and tenderness were still present, also crepitus was noted for the first time. Two months later there was no improvement.

#### **FRACTURE OF OS MAGNUM.**

Dr. J. H. LONG said that his patient was 7 years old. An iron gate fell on his right wrist and forearm. The wrist was painful with a slight swelling and marked tenderness on the carpus anteriorly and posteriorly. Radius and ulna all right.

An X-ray plate showed two fissured fractures of the right os magnum. The wrist was immobilized on a moulded splint.

#### **FOREIGN BODIES IN PHARYNX AND ŒSOPHAGUS.**

DR. C. E. LACK said that the first specimen was a case where a patient had swallowed false teeth and was brought to the Norwegian Hospital. An operation was performed by Dr. Ferris. Œsophagotomy was done and the foreign body removed.

The second was a girl 3 years old, who three weeks before had swallowed a nickel. Œsophagotomy was performed, the nickel was removed by dressing forceps and the Œsophagus sutured.

Specimen 3 was a safety pin lodged in the posterior pharyngeal wall and removed by forceps by Dr. Dudley.

Replying to a question as to what attempt, if any, had been made to remove the five-cent piece before

œsophagotomy was done, Dr. Lack said they tried œsophageal forceps, but it was utterly impossible to introduce them as they were too large. They put a wire probang in the œsophagus and in withdrawing it it slipped alongside the nickel. It was impossible to get it out that way. They felt that as it was there three weeks it was encysted and so œsophagotomy was done.

DR. R. S. FOWLER said that in his experience these coins were very readily removed with coin catchers, and it would seem before proceeding to such a severe operation it might be tried to remove the coin with coin catchers.

#### **CARCINOMA OF SIGMOID. OPERATION.**

DR. J. B. BOGART, exhibiting a specimen, said it was a carcinoma of the sigmoid removed last summer from a woman 40 years old at the Jewish Hospital.

The patient was admitted to the hospital June 10th with a history of having had for ten days symptoms of intestinal obstruction. She had no satisfactory movement from the bowels, although she had several enemata and the usual amount of physic. She came to the hospital and was given a course of calomel and another series of enemata. None of these measures was successful. The passages contained particles of fecal matter, but the distention was not relieved and she continued to vomit until she left the hospital. However, she got some relief and went home. For a week she was fairly comfortable; the vomiting ceased and the pain subsided. After a week it came on again. When again admitted to the hospital she vomited almost constantly. She was not especially tender over the abdomen and there was no localized rigidity. Her pain was referred to the left lower quadrant. The pains were almost rhythmical, lasting five to ten minutes, passing off and recurring again. Again an effort was made to move the bowels by calomel and a number of doses of eserine hypoder-



mically. Hot poultices were applied to the abdomen and another series of enemata were given. She was under the care of the medical service for four days. She was then transferred to his service and he operated.

The rectal and vaginal examinations were negative. It was impossible to make a positive diagnosis as to the cause of the trouble, although the age and history pointed to possible malignancy. She was married and had eight children, and was well until four years ago when she had a miscarriage. This was evidently followed by an attack of pelvic inflammation. After that at the time of her menstrual periods she had attack of cramp-like abdominal pain and constipation, becoming more defined.

On opening the abdomen he came very soon upon a knuckle of the large intestine attached to the bladder; this angulation of the bowel was the seat of a growth. He made an effort to separate it from the bladder, and in doing so tore through it, and there was a leakage of the intestinal contents into the abdominal cavity. At the point where the intestine gave way there was a flat piece of bone, evidently a piece of beef bone, and the lumen of the gut had practically disappeared. One interesting feature of the case was from July 3d to August 8th, when he operated, there had never been a movement of the bowels. There might have been a leakage, nothing more. She had been vomiting almost all the time and was

unable to retain any nourishment. There was no glandular enlargement, and it seemed to be pretty well localized. He divided the sigmoid low down in the pelvis and two inches above the pelvis and removed it. It was not possible to bring the two ends together, so that he took the upper end and made an inguinal colostomy, entirely closing the lower end and dropping it back. Then he resected the base of the bladder and on account of soiling the peritoneum he put in a drain.

The patient made a good recovery, and has remained well, except in September she had an attack of gall-stone colic and was jaundiced. Nothing was done in a surgical way. Examination to-day by abdomen, vagina and rectum did not reveal any return of the trouble. She still has a recurrence of pain in the region of the gall-bladder. The bowels move through the artificial opening, but she does not complain of that.

The pathologist pronounced the disease to be an adeno-carcinoma. The speaker said he had not met with any condition like that before in the intestine. He did not think it would have been possible to have made an anastomosis on account of the short piece of gut left at the lower end, even if the patient's condition justified the attempt. In this case he believed he had saved the patient's life, and felt encouraged by the patient's condition to think she might not have a recurrence.



# LONG ISLAND MEDICAL JOURNAL

VOL. III

MARCH, 1909

No. 3

## REMARKS ON THE DIAGNOSIS, AND WHEN TO OPERATE IN ECTOPIC GESTATION\*

JOHN OSBORN POLAK, M.Sc., M.D.,

BROOKLYN-NEW YORK.

THE many errors in diagnosis, with their unfortunate results to the patient, that have come to my notice within the last few months, together with the varying opinions expressed by several authorities, as to when to operate in ruptured ectopic, has prompted me to look over my personal experience, with this comparatively frequent form of abnormal pregnancy, and to draw some conclusions.

Since 1900 I have operated on 73 cases of ruptured ectopic, with two deaths. Both of these patients were suffering from general septic peritonitis at the time of operation, having been curetted several times at their homes for uterine hemorrhage, before being referred to the hospital. There has been no fatality in my last 60 cases.

Eighty per cent. of these patients which I have had an opportunity to question, presented a typical history, which should have suggested the possibility of an abnormal pregnancy, before the symptoms of the tragic stage appeared. While we all must admit, that a diagnosis before primary rupture is often impossible, there are undoubtedly numberless instances in which a strong presumptive diagnosis can be made. It must be remembered that the first rupture of the tube, with slight bleeding, always takes place

within a few weeks after the lodgment of the fertilized ovum, and further, that this primary rupture is seldom complete, or causes fatal hemorrhage, but always produces some degree of metrorrhagia.

The history has usually been that of previous sterility, a long interval between children, or one of previous pelvic disease, endometrial or tubal, followed by the symptoms of early pregnancy. The woman may have passed over a menstrual period, or it may have been delayed or postponed for 6 to 20 days, when a bloody vaginal flow appears. In this series the shortest period of amenorrhoea was 3 days, the longest 41—the average 18 days. This genital hemorrhage lacks the characteristics of a normal menstruation. It is an irregular bloody discharge, usually scant, following the attack of pain; for this reason it is my custom to compare this flow, usually dark or sero-sanguinous in character, with the two preceding regular periods. There may be some nausea, most marked in the morning, and in my experience it is usually more severe and begins earlier, than when the pregnancy is intra-uterine. Tenderness and fulness of the breasts may also be noticed. Pain is not necessarily present, though there is usually a sensation of soreness and discomfort in the pelvis, localized and referred to one or the other side. This is a progressive

\*Read before the Long Island Medical Society, January 5, 1909.



symptom, for as the ovum grows, the tube makes repeated efforts to rid itself of its contents, which causes attacks of sharp colicky pain localized in one side, attended with some degree of faintness, followed by intervals of hours or days of complete remission, always followed by sensitiveness over one or the other inguinal region. These attacks of colic are almost always associated with, or followed by some metrorrhagia. The pulse is always accelerated but there is seldom temperature.

Patients presenting such a history, demand a careful and painstaking examination to exclude or confirm the presence of a pregnancy outside of the uterus, I feel, that if we will only be on our guard, and try to exclude the possibility of ectopic before resorting to diagnosis of abortion, dysmenorrhœa, etc., we will save many lives by making an early presumptive diagnosis: for certain pelvic signs are always available, which establish the presence or absence of a pregnancy. There may be a dusky hue to the cervix, which is softened, while the uterus is usually somewhat enlarged but does not present the characteristic changes in shape and consistency found in normal pregnancy. A small mass or tumor may be felt to one or the other side, or in front, or more commonly behind the womb, displacing it. This mass is tense, pulsating, and very tender. Sharp colicky pains in the lower pelvis, with intervals of remission, persistent pelvic soreness increased by moving the cervix, and a markedly tender mass in one of the referred locations, coupled with a missed or postponed period, point strongly to a diagnosis of ectopic. Such an array of data should put the attending on his guard, and the patient should be moved to the hospital for observation; for in a few days the tubal tumor will have increased in size, and a positive diagnosis may be made. During this watching period, repeated blood examinations add contributory evidence of great value. Exacerbations of abdominal pain without apparent cause, and

without decided elevation of temperature, occurring even when the patient is at rest in bed, should suggest ectopic. And finally, there are always present some of the signs of pregnancy *without the positive changes in the uterus itself*.

*Signs of Rupture.*—Complete rupture is usually sudden, spontaneous or provoked by some insignificant physical effort or traumatism. The woman is suddenly seized with severe pain in one or the other tubal region, though the pain may radiate over the entire abdomen, or be referred to the epigastrium. The abdomen becomes sensitive to the slightest touch, and presents a *diffuse rigidity, immediately after rupture*. The pulse becomes small, frequent and thready, there is air hunger with a sighing respiration and audible yawning. Faintness, nausea and perhaps vomiting, with syncope of greater or less degree. *All evidence of sudden internal hemorrhage*. The severity of the symptoms depend upon the amount of hemorrhage, and whether the rupture is an intra or extra-peritoneal one. The hemorrhage may be so severe as to cause the death of the patient. The sudden pain and other evidences of an abdominal calamity should direct our attention toward a further pelvic exploration. Just after rupture the abdomen is exquisitely sensitive, and markedly rigid, somewhat distended, and there may be dullness in one or the other flank. A soft boggy mass may be recognized in the pelvis, giving a crackling sensation to the finger. I would warn you, however, against attempting to make a thorough examination of the uterus, and the supposed gestation sac, as manipulation disturbs the clot formation, and increases hemorrhage which has already been arrested before the examination; only to be fanned to greater fury by a painstaking pelvic exploration, which many of us think necessary to make a diagnosis of ruptured ectopic. This warning applies, even more forcibly to examinations under anesthesia. Before primary rupture there is usually no change in the blood, but



after rupture, even though it be a partial one the blood helps to tell the tale. While bleeding is going on there is always an increased leucocyte count, a diminution in the number of red cells, and a fall in the percentage of hemoglobin. The fall in the red cells, lowered blood pressure, and the hemoglobin percentage are progressive, and become more marked as the bleeding continues.

A tubal pregnancy after primary rupture, presents the symptoms and signs of an acute, or subacute pelvic inflammation, but with certain peculiarities characteristic of ectopic. These are a missed or postponed menstruation in a woman who has previously been regular, going over from a few days to several weeks. The patient after going over her period is suddenly seized with severe abdominal pain, usually referred to the region of the fruit sac, followed by a bloody vaginal discharge, often containing the decidual cast from the uterus or shreds of membrane. There is commonly an absence of fever, though the temperature may rise to 102 during the hemorrhage, yet it seldom goes above 100. The temperature may fall to sub-normal if the hemorrhage is sufficiently profuse to exsanguinate the patient, and produce attacks of syncope. This is seldom in primary rupture, save when the rent is in the isthmic or interstitial portions of the tube and into the peritoneum.

There is always some evidence of an internal hemorrhage, which is shown in the pallor of the woman, the pulse, which increases in rapidity, and diminishes in volume, the repeated syncope, the restlessness and thirst, the sighing gasping respiration, and the cold clammy sweat about the face. The lowered blood pressure, and the diminishing percentage of hemoglobin and red cell count.

*Treatment.* — Extra-uterine pregnancy, whatever its location, or period of gestation may be best dealt with, by surgical intervention; but when, and by what route to interfere is often a question.

Seventy-one of my patients were operated by abdominal section. Two by vaginal incision and drainage. As stated before, two women, both operated by abdominal section, died from septic peritonitis, 72 and 81 hours after the operation. These patients were septic on admission, besides being exsanguinated, a result of intra-peritoneal isthmic ruptures. Such patients have low resistance, and are unable to combat infection, and the added trauma of operation.

In the past five years but three patients have been operated immediately on admission, or upon making the diagnosis. In one of these women, the operation was one of convenience, as she was admitted during my clinic hour. The other two were operated while in extremis, and both improved promptly on section, and relief of the intra-abdominal pressure, they therefore should be arrayed on the side of immediate operation successes.

Within the past two years, Hunter, Robb, Simpson and others in this country have questioned the propriety of operating on every case of ectopic at once, and support their views with some incontestible, though improperly selected data, experimental and clinical. Robb cut the ovarian arteries in bitches, closed the abdomen, and found that the dogs failed to bleed to death.

Those of us however, who have done laboratory work on the lower animals, know that the intima and media retract, and spontaneously check hemorrhage in dogs, in a manner totally different to what takes place in the human female. Simpson's cases, when studied carefully, must fail to impress the reader with their severity. I agree, however, with the last named writer, that save in a single instance, I have never seen a vessel actively bleeding at the time of operation, also, that if the patient was going to bleed to death, she would probably be dead before being seen by the surgeon. Again, the large majority of ectopic gestations terminate in tubal abortion with comparatively scant hemorrhage, which



ceases of itself, or the ovum ruptures into the broad ligament, and forms a hematoma; yet, isthmic and interstitial ruptures with fatal hemorrhage, occur with sufficient frequency to make it unsafe to defer all operations. *Is there any way to know positively which case will stop bleeding spontaneously, and which patient will go on to fatal hemorrhage?* All will agree *that we must answer this negatively.*

It has been our custom to wait when the rupture is into the broad ligament, with the formation of a hematoma. The uterus is usually markedly displaced, being pushed far to one side, or carried up over the pubes by the intra-ligamentous distension. When these findings can be definitely made out, the free use of morphia, the elevated foot posture, and the maintenance of firm abdominal pressure with sand bags, has controlled extensive dissection of the peritoneum and favored clot formation. In the course of four to seven days, a vaginal incision may be made, and drainage established.

In all other forms of this accident, abdominal incision offers the speediest and safest results. The guides which influence us in electing immediate section, or deferring the operation are: First, the *Pulse*, a pulse of 100 or less, permits of delay, on the other hand, if the rapidity increases, and lowering of the blood pressure continues, or if the hemoglobin percentage falls, prompt section is made. All ectopics, or supposed ectopics demand immediate hospital care. On admission the foot of the bed is elevated, no stimulants of any kind are given, and morphia is used freely. A blood count is made, blood pressure taken, and the pulse rate carefully counted and recorded. Similar observations are made hourly. If improvement takes place the operation is deferred for a day or two, until the patient has had an opportunity to react from the shock produced by the intra-peritoneal calamity. If no improvement is noted, immediate celiotomy is made. A few words on technique may not be out of order. A patient who has had sufficient morphia to combat her shock,

needs but little anesthesia. Chloroform-oxygen narcosis, begun while the abdomen is being prepared has met all indications.

The abdominal incision should be to the right or left of the median line. When the peritoneum is opened, the operator will do well to pass his hand down behind the uterus, find and bring up the ruptured tube, this can be done without evacuating the clots. The tube is then clamped at its uterine and pelvic ends, the ovarian, and ovarian-uterine anastomosis tied, and the tube cut away. Until these vessels have been ligated no saline solution is introduced into the circulation. The large blood clots in the pelvis are now removed, the ligated stumps sponged and inspected for hemorrhage. Hemostasis having been secured, the patient is further Trendelenburghed, and the peritoneum closed with a continuous catgut suture. Just before tying this suture, one to two quarts of hot saline solution are poured into the peritoneal sac through a sterile funnel and tube. The fascia muscle and skin are closed by interrupted crossed sutures of silkworm gut. Such a procedure can be done in 10 to 12 minutes. Speed and hemostasis are the factors of success. I am opposed to intra-venous infusions, either before or during operations for ectopic, as they often kill our patients by embarrassing a weary heart, and change the character of the corpuscles, besides opening the blood current to contamination. Sufficient saline will be taken up from the abdominal cavity, or absorbed from colonic enteroclysis to meet the needs of the emptied circulation.

In concluding, let me say, that the objects of the operation for ectopic, are: First, to control hemorrhage, or to prevent recurring of bleeding by careful ligation. Second, to remove the debris incident to the tubal abortion or rupture. Third, to fill up the volume of the blood current in such a way as to permit nature to adjust itself to the new condition. And finally, that these objects have been attained by adhering to the principles stated above.



# PROGRESS IN OPHTHALMOLOGY

By JAMES COLE HANCOCK, M.D.

WHILE under this heading there have been but few innovations presented during the past year there have been some of more than ordinary interest and it is intended to review these and also others which while of less importance are still of some interest and value.

So much time and attention have been given during recent months to the subject of tuberculosis and tubercular conditions that it is little wonder that the Calmette method of diagnosis has attracted wide interest and perhaps constitutes the most important discovery of an ophthalmological nature during this time. This method consists in the introduction into the conjunctival sac of a one per cent. solution of tuberculin with the expectation of obtaining a characteristic conjunctival reaction in the presence of tuberculosis. As has ever been the case concerning the presentation of a new medical theory there has been much both said and written for and against the value of this one. It may truly be said that Calmette has given us much evidence of the value of his theory. Schiele states that lids affected with trachoma or follicular conjunctivitis react to the tuberculin test of Calmette as well as lids of a tubercular patient not the seat of either. He considers the two forms of conjunctivitis identical and states that the reaction does not occur in lids that have been treated with hydriodic acid, thus apparently giving this remedy much value in the treatment of trachoma. The tuberculin test, Schiele holds, should not be used in the presence of trachoma for fear of setting up an exacerbation of the trachoma.

The following conclusions may be fairly set forth as representing the general opinion concerning the Calmette method:

1. The Calmette ocular tuberculin test is of as great diagnostic value as any other single test.

2. A positive reaction is indicative of a tuberculous focus at some point in the body.

3. The test is uncertain in a patient under two years of age, in whom the cutaneous test of von Pirquet is most certain.

4. The test fails in advanced cases of tuberculosis, but here we are already informed by other symptoms of the character of the disease.

5. The initial instillation should be preferably under one per cent. in strength, for fear of exciting a reaction too severe.

6. There seems to be a general opinion against using the test in an eye not wholly normal.

7. This reaction is especially valuable for ascertaining the tuberculous nature of phlyctenular keratitis and conjunctivitis, episcleritis and scleritis, chronic iritis and iridocyclitis, interstitial keratitis and choroiditis.

8. The test in the hands of many observers has given such uniformly satisfactory results that its value is practically assured.

While the Calmette method of diagnosis is probably the most important ophthalmological incident of the year there are others of interest of which brief mention will be made.

Jameson has described and performed two very interesting and important operations upon the iris. One of these consists in the replacement of a prolapsed or incarcerated iris by direct traction within the anterior chamber. The other has for its object the reattachment of an iris torn from its periphery.

La Grange advocates the combined use of iridectomy and sclerotomy as the only means of producing, without danger, a permanently filtering scar in the treatment of glaucoma. The result is a subconjunctival fistula which allows the intraocular fluids to emerge beneath the conjunctiva. Better results are claimed in chronic glaucoma than by the use of any other method.



While the use of subconjunctival injections for various conditions has been common, the employment of staphylococcic vaccine in corneal conditions, especially in hypopyon-ulcer, is novel and is said to be attended with good results. The injections are subcutaneous and the vaccine has been obtained from a culture of pus on agar taken from an acne pustule on the face.

Senn suggests that dionin hinders the filtration through the anterior chamber by pressure of the resulting edema upon the veins and sounds a note of warning concerning its use in glaucoma.

Feger has used sajodin in diseases of the choroid and in progressive myopia. It is taken in tablet form and the dose should be gr. 1-3 daily. It does not produce iodism.

Fibrolysin, a combination of thio-sinamin with sodium salicylate, has produced good results in cicatricial conditions and fibroid tumors. It has been used in similar ocular conditions with some benefit.

Deutschmann says that animals inoculated with increasing doses of yeast yield a serum effectual in the treatment of hypopyon keratitis, relapsing iritis, purulent iridocyclitis and some ocular injuries. It is recommended after injuries and before operation.

In retinal detachment the consensus of opinion still seems to be in favor of subconjunctival injections of concentrated salt solution. This method is supposed to result in the absorption of fluid from the subretinal space, although the theory of action is still under discussion. Injections of a thirty per cent. salt solution are made at intervals of several days, according to the reaction produced, and the patient kept in a recumbent position during the treatment. Treatment of the causative factor when discerned should of course be attended to.

Lebensohn reports a case of argyrosis probably due to silver nitrate, the drops having been used three times a day for more than four weeks. The stain was much diminished by the use of dionin. It is generally held that argyrol produces

no argyrosis no matter how long it is used but it is believed that two cases coming to the knowledge of the reviewer during the past year were caused by this remedy.

The year has been noteworthy for the small number of cases of trachoma reported. This is undoubtedly due to the fact that ophthalmologists have become more united in the opinion that immediate operation is the very best mode of procedure. It would seem that medicinal applications are no longer employed as a routine but merely to supplement the operation. A suggestion which at least has the merit of novelty has been presented to the effect that sterilized sandpaper should be used to rub the trachomatous lids. The Jameson trachomatone seems to have in every way fulfilled its promise and still maintains its popularity in the treatment of trachoma.

Crede's Method or some modification of it holds its place of great importance in connection with the eyes of the new born child.

Hamman states that by adding glycerine to watery solutions of silver nitrate the pain in instillation or application is greatly reduced.

Higgins states his relief that many cases of what is called rheumatic iritis are in reality gonorrheal in origin even though the patients have had no urethritis for a long time, even years. These, he claims, are among the most obstinate cases and those most likely to lead to synechiæ and an exaggeration of all symptoms. There is no specific and treatment is slow to make an impression.

There is an attempt being made to collect statistics of an international character relating to heredity in ocular diseases. While much important information will undoubtedly be obtained it will be extremely difficult to formulate rules in this connection. That heredity may play a part is evidenced by one case of glaucoma that could be followed through four generations and involved six persons. The reviewer believes that these persons were, in all probability, hyperopic and neurasthenic, and that these predisposing conditions were the ones inherited as they often are.



# DRUG TREATMENT OF NERVOUS INSOMNIA AND A COMPARISON OF THE RECENT HYPNOTICS

By ERNEST FREDERICK LUHRSEN, M.D.,

Visiting Neurologist Lutheran Hospital; Neurologist Jewish Dispensary; Associate Neurologist Jewish Hospital.

Brooklyn-New York.

IN treating insomnia, it must be remembered that this is not an idiopathic affection, but that the lack of sleep is part of a general condition. It is most common in the functional neuroses, where there may be difficulty in falling asleep or the sleep may be of too short a duration.

The first important factor is the regulation of the mode of life. Injurious habits, which interfere with sleep must be overcome. Prolonged, warm baths, and the more recently recommended rest cures will often act beneficially and the influence of climate should not be underestimated.

To assist the cure, various drugs may be necessary in the different conditions. The various drugs have a different chemical composition and hence do not act in the same way. The most important modern hypnotics belong to the groups of the alcohol derivatives, the disulphones, the urethanes, the acid amides and the urea derivatives. Dormiol and isopral belong to the first group.

*Dormiol* (di-methyl-ethyl-carbinol-chloral) is a chemical union of two drugs which are hypnotics by themselves. It is a colorless fluid with burning taste and irritating odor, suggesting menthol-camphor. It was first manufactured and tested pharmacologically by Fuchs and Koch in 1898. It resembles chloralhydrate very closely in action.

After Kueltz had shown that the chlorinated alcohols have similar hypnotic properties to the corresponding aldehyde derivatives, Impens in 1903 tested this group systematically. As a result of his investigations, *Isopral* (tri - chlor - iso - propyl - alcohol) was placed upon the market as a substitute for chloral. This drug has also a camphoraceous odor and a burning taste

so that it can generally be prescribed only in capsules. Like all chlorinated hypnotics, it is to be used only with the greatest care where there is cardiac or vascular disease.

The most important members of the disulphone group are sulphonal, trional and tetronal. Owing to its reliable action and relative harmlessness, *Trional* is the most popular. It was manufactured and physiologically tested in 1885 by Baumann. It occurs as colorless, rhombic platelets which are very difficultly soluble in water. Cumulative action, drug habit and after-effects have repeatedly been reported despite all care. The taste of the drug is very disagreeable for some patients. Frequently there will be gastro-intestinal disturbances, nausea and vomiting. Prior to the development of severe after-effects, there is generally constipation. In some instances, the urine contained hematoporphrin. Disagreeable symptoms on part of the central nervous system have also been seen.

*Hedonal* belongs to the group of the urethanes. In testing this group in 1899, Dresser found that the urethanes of the higher secondary alcohols generally show a more pronounced hypnotic action than those of the primary alcohols. Among the former, the isomeric amyl-urethan or methyl-propyl-carbinol-urethan (*hedonal*) is especially suited for therapeutic use. Hedonal is a white crystalline powder with feeble, aromatic taste and odor. It is soluble with difficulty in water. Rather large doses are necessary to induce sleep. Like all urethane derivatives, the amount of urine excreted will be increased and the specific gravity will fall proportionately. The drug is contraindicated where also salicylic acid preparations are administered.

The acid amides are represented by



*Neuronal*. This was manufactured and tested in 1904 by Fuchs and Schultze. The starting-point of this drug was trional. One  $\text{SO}^2$  group was removed and an atom of bromine was added to increase the hypnotic action. Neuronal is a white, crystalline body which melts at  $66^\circ$  without decomposition. It is very difficultly soluble in water and there seem to be no cumulative properties. One disadvantage is that the system rapidly becomes accustomed to the drug so that it loses its action. It is not entirely free from disagreeable and toxic after-effects, but these seem to disappear rapidly as soon as the administration of the drug is stopped. All in all, the drug does good service as hypnotic and sedative in certain cases.

The most important hypnotics of the present day are the urea derivatives. Fischer and V. Mering manufactured and recommended *Veronal* (diethyl-malonyl-urea or di-ethyl-barbituric acid) in 1903. Veronal occurs as slightly bitter crystals which are difficultly soluble in cold water but very easily soluble in the alkaline intestinal juice. The hypnotic influence of veronal is to be ascribed to its paralyzing action upon the central nervous system. There will also be an increased flow of urine, owing to a dilatation of the renal vessels. Veronal is a prompt hypnotic which is well suited for the different forms of insomnia, following organic and functional disease. A cumulative action has only been observed rarely and, after-effects are not pronounced (depression, vertigo and lassitude on the following day). In some cases, a rash has been seen. The toxic dose is 0.7 gram per kilogram.

The most recent member of this group is *Bromural*. (Alphamono-brom-isovaleryl-urea.) It is also soluble with difficulty in cold water, but easily so in the alkaline intestinal juice. A special advantage offered by this drug is its rapid excretion (4 to 5 hours) so that a cumulative action is excluded. Frequently, the natural sleep will return after the drug has been used for several days.

The toxic dose is very large (1 gram per kilogram of body-weight). The drug is indicated in all cases of mild insomnia and it fails, like veronal, where there are severe pains. The preparation is particularly valuable as a sedative. Its chief indications are in hysterical and melancholic conditions as well as in psychical depression, mental exhaustion, etc. Here the dose is 0.3 grams three times a day. Since absolutely harmless within therapeutic dosage, it may also be given to children. Bromural will also check the excessive perspiration in many affections. An eruption has only been seen once. After-effects on the following day have never been observed. This has been especially emphasized by Erb of Heidelberg and V. Leyden of Berlin. Even if continued for a longer period, the patient will not become accustomed to the drug and the mental powers will in no wise be diminished. Rabbits, that were killed after they had taken bromural over an extended period showed normal organs. No lesions were found in the heart, liver or kidneys.

Since this latter drug has been placed upon the market, very many favorable reports have appeared in medical literature. It seems to fill a gap between the bromides and the true hypnotics and its indications therefore would be in all conditions where a stronger sedative than the bromides is desired or where a very mild, yet efficient hypnotic is in place, which will not give rise to any after-effects nor even the morning depression so common with the other members of the group.

The cases that came under my care suffered from functional nerve disorders with the accompanying nervous symptoms. The results obtained with bromural in these cases were excellent; though the action was somewhat slow, the symptoms all responded well without the depression and rash so commonly observed with the bromides which were formerly employed. The results were the same in organic disease, where bromural was given as a hypnotic; aside from slowness in



onset, a satisfactory sleep was obtained without any apparent depression. The following case will illustrate the reliability of bromural: A patient with acute nephritis and nerve wracking insomnia received trional in 0, 9 grams (15 grains) doses (two doses at night) for two nights in succession without effect except that nausea and depression were complained of. On the third night, chloralamid in the same dose was substituted and repeated the fourth night. The patient slept but little, again complained of nausea and actually vomited. On the fifth night, a cathartic was administered with good effect but still there was no sleep, but marked restlessness. Finally, on the sixth night, a dose of 0, 6 grams (10 grains) of bromural was administered and repeated in two hours. The patient now

fell asleep for the first time for about one hour and awoke somewhat refreshed.

On the following night, another 0, 6 grams (10 grains) of bromural induced a refreshing sleep lasting two hours. The duration of the sleep was gradually increased on succeeding nights but signs of accumulation or depression were never observed.

Though the number of cases which I observed has not been a very extended one I feel safe in venturing the statement that bromural comes nearer to being an ideal hypnotic than any other drug, since the sleep it nearly always induces in suitable cases very closely resembles the natural process and is not followed by depression, nausea, vomiting, rash or any other visible, untoward symptom.

292 Greene Avenue.

## HEAD INJURIES.

By WARREN S. SIMMONS, M.D.

THE fact that injuries to the head can produce the most severe lesions to the brain by contusion, laceration and compression without in some cases serious cerebral symptoms and in others symptoms that are entirely misleading, both as to the severity of the injury and its localization has, I am sure, been the frequent experience of us all.

To-night, with your permission, I desire briefly to report a number of head cases that have recently come under my observation, with the hope of learning from your experience with these patients your views concerning their treatment and whether or not it is best to treat those obscure cases as we do hidden abdominal lesions by exploratory incision.

Before enumerating cases let us review a few points of the anatomy of the cranium, especially its base.

That part that contains the cerebrum consists of two levels, the first of which, the anterior fossa, is everywhere surrounded by bone. The sec-

ond level is made up of the greater wings of the sphenoid in front and below, and the lesser to a certain extent above, the posterior part of the floor being formed by the tentorium cerebelli, an elastic fold of dura stretching from the occipital to the superior borders of the petrous bone. By this arrangement it is seen that the anterior parts of the bases of the frontal and temporo-sphenoidal lobes are hedged about by unyielding walls, while the posterior part of the cerebrum is somewhat protected from violence by the yielding nature of the tentorium, and it is the anterior parts of these lobes that are usually injured in indirect traumatism to the skull.

CASE I.—Male, about 35 years of age, was thrown from an automobile. When seen by the ambulance surgeon he expressed himself as not being hurt other than having a black eye. He persistently refused to consider his injuries of a serious nature, but was finally induced to go to the hospital. On examination the left eyelids and



area around the orbit were swollen and infiltrated with blood, there being no ecchymosis beneath the conjunctiva. The pulse, temperature and respiration were normal, pupils reacted to light, mind clear, no evidences of paralysis and the patient perfectly rational. His condition steadily improved until the sixth day, when he rapidly became unconscious, the pulse and temperature rose, the latter to 106 degrees; respirations were stertorous and death ensued in 48 hours.

Autopsy revealed contusions and lacerations of left frontal lobe with an accompanying meningitis. There was no fracture of the skull either in the vault or base.

CASE II.—Male, about 30; laborer. While passing beneath the Queensboro bridge a beam fell to the deck of the boat striking him on the head and shoulder, rendering him unconscious. He was immediately taken to the City Hospital and remained there for 48 hours. At the end of that time he felt perfectly well and went home by himself.

Four day later an intense headache set in and he was removed to St. John's. On admission, aside from the headache, there were no other symptoms, with the exception of a bruise on the right shoulder. Eight hours later he was semiconscious, and in four more developed alternating paralysis and convulsions confined to the left side.

An opening was made in the lower part of the right temporal region which revealed an area of lacerated brain tissue about the size of a silver quarter.

Death ensued 22 hours later and an autopsy failed to show any fracture of the skull.

CASE III.—Boy, 10, brought in on May 8th, with history of having fallen from a ladder. The patient was unconscious, pupils reacted to light, no motor paralysis, some contraction of flexor muscles. There was a swelling on left side of the head in the posterior parietal region that upon examination revealed the presence of a depression in the skull.

A semi-circular incision was made

over the swelling down to the bone, flap including periosteum turned back, exposing depressed area. Fragment of bone one by three-quarter inch removed; dura incised and subdural clot removed, small laceration found in cortex. Hemorrhage from two small vessels of the pia controlled by ligation, dura sutured, scalp sutured and drained for three days. The recovery was uneventful.

CASE IV.—Male, 28, thrown from automobile, striking left side of head. On admission, unconscious; pupils reacted; no paralysis; on the contrary patient was extremely restless and at times uncontrollable; tendency to flexor contraction; eye backgrounds normal; pulse 46 and full; lacerated wound over left temporal region that did not connect with any fracture.

The wound was enlarged downward and backward and a long fissured fracture extending to the base and depressed at the upper angle found. Depressed bone removed, large extra dural clot turned out that extended well up over the motor area, the middle meningeal was ligated, a gauze pack inserted and wound sutured. The patient rallied well from the operation, regained consciousness, and was able to answer questions in an intelligent manner. He died three days later and autopsy showed fracture extending across the base with contusion and laceration of both temporo-sphenoidal lobes, also slight œdema and meningitis.

CASE V.—Female, 35, was struck on the head by a tinsmith's scissors falling from a roof. On admission to hospital examination showed a large lacerated wound in the median line almost exactly in the center of the head, with the bone beneath depressed. The patient was conscious and in good condition, though a large amount of hemorrhage had taken place. On removing the depressed bone there was an immediate copious hemorrhage from the superior longitudinal sinus that was easily controlled by digital pressure. The dura and pia were both lacerated together with an area of cortex corresponding to



the paracentral lobule on the right side, most of which escaped from the wound.

Considerable difficulty was experienced in controlling the hemorrhage from the sinus, but it was finally accomplished by introducing a pair of forceps open, one jaw on each side of the falx cerebri, pushing them up against the bone and closing them in this position. The remaining oozing was overcome by a gauze pack extending down over the motor area. The patient rallied well and on the third day there was a complete motor paralysis of the entire left side. On the following day the gauze was removed and motion promptly returned to the face and arm. The wound healed rapidly and the patient left the hospital with paralysis and œdema of the left leg and thigh. While the gauze pack that was sufficient to produce the paralysis was in place the eyes were examined by Dr. Jamison and found normal in all respects.

CASE VI.—Patient, a boy of 12, that had been struck in the head with an ax. On admission was unconscious and having frequent convulsions, pulse 90, pupils reacted slowly. There was a lacerated wound in left frontal region with a depressed bone area beneath. Wound was enlarged and fragments removed. In this case there was profuse bleeding from the anterior part of the superior longitudinal sinus as soon as the bone was taken out. This was controlled by packing gauze tightly against the sinus and on its removal the frontal lobe was found pressed away from the bone for at least an inch. This patient made an uninterrupted recovery and at no time were there any symptoms referable to the compression of the cerebrum.

CASE VII.—Male, 32. Supposed to have been sandbagged. Brought to hospital in a semi-conscious condition. His pulse, temperature, respiration and pupil reaction were normal. There was a profuse discharge of blood-stained fluid from the left ear that kept up for two weeks. He improved rapidly after admission to such an extent

that it was possible to demonstrate a complete deafness on the left side.

Later on he became much worse, relapsing into a semi-conscious state and at times was extremely violent.

It was decided to open the skull in the left temporal region, but on the day set for operation improvement was again so marked that it was postponed and the patient recovered without surgical aid, though he was still deaf when he left the hospital. In this case repeated ophthalmoscopic examinations failed to reveal any abnormalities in the eye.

CASE VIII.—Male, 28. Fell from a tree. Brought to hospital unconscious, no reaction of pupils to light, pulse, temperature, and respiration elevated and a discharge of blood-stained fluid from right ear. He recovered without any treatment other than the use of ice locally and stimulants.

A study of these and other cases must impress us with the fact that there are no positive symptoms that can help very materially in diagnosing contusion and laceration of the brain except in some instances, the evidence afforded by lumbar puncture, and the presence of a bloody fluid would not by any means reveal the source of the hemorrhage.

In only one of the cases of compression caused by bone, clot or the gauze packing was there unconsciousness. In one only of the patients whose motor area was the site of pressure was there paralysis. In one the slowness of the pulse suggested compression. In none of the five patients examined did the ophthalmoscope show any evidence of the cerebral condition.

What the cases do prove is that patients, who have a contusion or laceration of the brain have a much better chance of recovery if the injured area is freely drained and the question naturally arises as to what we shall do with cases that we suspect have such injuries.

First, let me enforce great caution as regards a favorable prognosis in these head injuries that do not give



any symptoms, for it has plainly been shown that a man can carry around a contused and lacerated brain for days and feel perfectly well.

What shall we do with our cases of fracture of the base? Leave them alone to recover or die, assisting them only by the use of ice, stimulants and such means as we possess of rendering the mouth, nose and tympanum with its auditory canal, a little less free from germs than usual, or shall we open the skull in the middle fossa by the so-called decompression operation by which Cushing claims to have made such a success in lowering the mortality from about 50 to 12 or 15 per cent?

This operation as you know aims to furnish drainage of the cranium in a position that will cause the smallest ill effect from consequent hernia of its contents and also at its most de-

pendent level. The temporal muscle is split in the direction of its fibres and a small opening made in the squamous portion of the temporal bone. That it does relieve pressure is true; also it gives a chance to inspect those parts of the brain most subject to contusion. It is also true that adhesions will form in the meninges over the site of the operation.

My own feeling in the matter is that basal fractures should be left alone if there is, in a reasonable time, some evidences of improvement. If, however, they show no tendency to recover or if the symptoms at first slight or severe do not improve or increase in intensity, then I would deem it wise to explore the middle fossa on both sides if necessary and thus give to these desperate conditions the only aid possible from a surgical standpoint.

216 St. James Place.

## A PLEA FOR SIMPLER MEDICATION.

By L. P. HOOLE, M.D.

BROOKLYN-NEW YORK.

**N**EXT after a careful and accurate diagnosis comes the choice of a proper treatment; in fact, the average patient asks us to "do something" before he tells his symptoms. Very few of us will prescribe the so-called nostrums advertised to the laity; then can we consistently use the secret proprieties? Can we accept a fee for our superior knowledge and use a remedy of which we are quite as ignorant as our patient? Is Manola any better than Peruna, Sanmetto than Santol Midy, Anasarcin than Swamp Root or Germiletum than Liquizone? The Council on Pharmacy of the American Medical Association has exposed many frauds among these, and has put others into our next class, The Open Formula—Ethical—Original Bottle. Many of these are good prescriptions of good doctors, but sadly abused. When a doctor finds a better treatment for any of our ills he pub-

lishes it freely and—some one patents it. As a class those formulæ lead the way toward a more elegant pharmacy, but not toward a simpler.

Many of the U. S. P. and National Formulæ preparations are avowedly copies of successful proprieties; then why use Cataplasma Kaolin and reject Antiphlogistin, or Elixir Digestive Compound when Lactopeptine is available? Is the one more scientific than the other? Purely pharmacopœial prescribing can thus become absurd. "We must mix drugs with brains."

Ready-made compounds from any source are the refuge of the lazy; the result of poor teaching in school, hospital and dispensary. A good doctor should be able to write a better compound at the bedside for this particular case than any "hand-me-down" planned for the so-called average case. Prescribe for the patient, not for the disease, and never use that



great but very temporary convenience the labeled formula; e. g., Cong. No. 13, Diarrhea No. 23, Liniment, Dr. Stokes, etc.

But this discarding of ready-made compounds means a deeper study of our drugs, and results in a simpler treatment of the individual; for as a rifle requires more accurate aim than a shot-gun, but gives better penetration, so the simpler our medication the more accurate must be our diagnosis and therapeutics, but vastly better must be our results.

Shall we then use single crude drugs? My answer is, scrap-iron does not benefit the anemic, nor hair and hide and hoofs and all make food for him who needs meat. How many ounces of Peruvian bark shall we give him who needs 30 grains quinine? I scarcely think the stomach could retain it. Do the Galenicals meet our needs? It is true that Galen made a great step when he taught us to refine our drugs, but he did not reach the goal. The variability of Galenicals is too well known to dwell upon, for here we deal with not only intentional adulteration and carelessness, but with the variability of the plant itself. I have just received an advertisement from Van Horn & Sawtell with the following footnote: N. B. "At 8 o'clock each morning of the week a fresh infusion digitalis is prepared from leaves answering all the requirements of the

standard physiological test—an incident unusual and important enough to be worthy of special attention." Can we deny the justice of this statement? Is any Galenical absolutely invariable? Can medicine with such uncertain remedies ever overtake her sister, surgery, whose tools are scientifically accurate and invariable? And, too, standardization means that this bottle contained a certain medicine "once upon a time." It does not provide for preservation.

Again, we give a certain medicine because it contains a certain active principle. The use of Galenicals means the use of the active principle modified by time, temperature, evaporation, and mutual decomposition. We ignore the other ingredients. Are there none, or do we not know them? Have these other ingredients no effect or do we not know these? If the effects of a plant are due to its active principle, why not give this pure in the form of an alkaloid, not buried in odor, color, flavor, gum, resin and assorted dirt? Why assume the variability of this unknown factor? Does not the variability of disease and patient give us enough trouble?

Physiological experimenters have long ago abandoned Galenicals for alkaloids. When we follow their lead we will no longer question the possibility of aborting disease.



## LONG ISLAND MEDICAL JOURNAL

---

A Forum for the Discussion of all Topics involving the Medical Profession and especially that of Long Island.

---

EDITED BY  
PAUL MONROE PILCHER, A.M., M.D.  
EDITORIAL OFFICE :  
386 GRAND AVENUE, BROOKLYN, N. Y.

---

Further Information on advertising page 3

---

MARCH, 1909.

---

### THE RECENT MEETING OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

THE Annual Meeting of the State Society is always considered a suitable subject for remark. A few there may be who feel that the Society should only be referred to in rapt cadence, and even thought of only in the spirit of deference claimed by the judicial ermine. To the great mass of the profession however, the Society is at most a name. To a limited number it has something of reality and a varying range of interest. Although criticised by a few and quietly objurgated by an occasional member, it may be said on the whole to rest on the good will of the great majority of the affiliated membership. That it has not altogether and at all times met the hopes of even its most ardent friends is shown by their occasional frank remarks and by the efforts at extension and improvement. Still, it is with us, it is now all we have of its kind, and we should be interested in its conduct and affairs.

There are two distinct phases of its activity that may call for notice: its scientific proceeding and its conduct of the medical affairs entrusted to it. As to the former, its programs

and published papers afford an ample basis for each member to arrive at an independent opinion of their suitability and importance. On the other hand its executive work touches on matters and methods that are a fair subject for discussion and that might with advantage receive more consideration than is possible in a brief editorial.

It was generally expected that under its reorganization there would result a much larger attendance at the meetings and a corresponding development of interest. The new scheme has now been sufficiently tested to say that this has hardly been realized. Whatever the actual figures of attendance may show, it was frequently remarked that the new plan not only failed to show a normal growth but even to quite maintain its former standard. Certainly the anticipated popularization is not yet evident. One assigned reason for this—although not altogether logical—is the fact of its meeting in the winter and always in one place. To obviate this handicap and as the outcome of years of discussion and agitation, it was finally decided to take the steps necessary to permit the holding of even the annual meeting at whatever place the House of Delegates may choose. This point is then in a fair way to be tried out by actual experiment. It doubtless will show at least temporary successes. Towards this desirable move it was generally acknowledged that the able article of Dr. Bristow in the January number of the State Journal contributed materially; very certainly it gave the final and deciding impetus.

And this brings up a general feature in the Society's executive methods, the difficulty that the majority has in establishing its wishes. Whether this



depends on the proximity of legislative politics, or, as some profess to believe, on the quiet activity of a few experienced leaders, or to the inexperience of presiders, or to simple carelessness and neglect of customary procedure, the result is the same. And few years pass without some occurrence that is pointed to (either sadly or gleefully, according to fancy of the observer) as proof of the continued unsatisfactoriness of affairs at the Society. It is just possible that herein lies the greatest impediment to the longed-for weal of the State Society. In one respect the present system appears to have effected a notable change, in so far as the varying make-up of the delegates has done away with the dominance on the floor, of any single group of men.

In concluding this somewhat perspective and outside view of the situation, we cannot but express a high degree of confidence in the management and prospects of our State Society. \* \* \*

#### ANNUAL MEETING OF THE ASSOCIATED PHYSICIANS OF LONG ISLAND.

THE Eleventh Annual Meeting of the Associated Physicians of Long Island was held Saturday, January 30, 1909, at the Library Building of the Medical Society of the County of Kings in Brooklyn.

During the executive session the Committee on Country Home reported against the advisability of undertaking this project. Doctor W. H. Ross, who made the report, said that the answers to the circular sent out concerning the matter had brought the committee to this conclusion. Upon motion duly seconded however it was

decided to continue the committee and request it to seek further advice from the ex-presidents.

The Secretary reported the affairs of the Society in the usual favorable condition and stated that the membership at present was as follows; Honorary 6, Active 512. Of the latter 138 are from Queens, Nassau and Suffolk Counties and 374 from Kings County. Total membership 518. During the year there were 4 deaths and 4 resignations.

The Treasurer reported a most satisfactory balance in the treasury.

The Scientific Session was presided over by Doctor William B. Brinsmade and consisted of talks upon tuberculosis. Doctor Livingston Farnand, of Columbia University, discussed the "Organized Campaign Against Tuberculosis." The Hon. Robert W. Hebbard, Commissioner of Public Charities, talked on "What the City is Doing and Intends to Do with the Tuberculosis Problem," and Mr. James Jenkins, Jr., of the Brooklyn Bureau of Charities, told of the "Tuberculosis Work in the Borough of Brooklyn."

The election of officers for 1909 resulted as follows: President, Frank T. De Lano, of Rockville Centre; First Vice-President, Thomas R. French, of Brooklyn; Second Vice-President, Frank Overton, of Patchogue; Secretary, James Cole Hancock, of Brooklyn; Treasurer, Charles B. Bacon, of Brooklyn.

The dinner at the Montauk Club which followed the meeting was very thoroughly enjoyed, although the attendance was only fifty-six, and the Entertainment Committee succeeded in every way in making the evening a success,

J. C. H.



## MEDICAL EXPERT TESTIMONY.

FROM the medical standpoint, the question of medical expert testimony has been most unsatisfactory, and it has been impossible for a jury of twelve men to decide the questions at issue in any case with perfect fairness to both parties of a suit, when they were confronted by the testimony of two equally eminent men whose opinions were diametrically opposite. The value of such testimony has always been very questionable. The New York State Bar Association received a report of a Committee appointed by the State Medical Society, dealing with this question, and the Committee of the Bar Association on Medical Expert Testimony presented a report to the Association which was unanimously adopted by the Association. The members protested especially against the commercializing of scientific knowledge, in the belief that it lessens its accuracy and value. According to the newspaper reports, the Committee makes a plea for insuring such conditions that expert witnesses, setting aside all personal feelings, may give their testimony without bias, and without being subjected to improper and contemptuous cross-examinations, misrepresentations, and other things tending to create an atmosphere in which the scientific mind cannot be expected to reason calmly and logically. According to the *New York Sun*, the Committee's report provides that Justices of the Appellate Division shall designate at least ten and not more than sixty physicians in each Judicial District, who may be called as expert witnesses by the trial court, or by any party to a civil or criminal action; when so called, they shall tes-

tify and be subject, like other witnesses, to examination and cross-examination. They shall be paid out of the county funds on the order of the trial judge, who shall also decide the amount of the fee. Judge Clearwater calls attention to the fact that eighteen physicians, representing three different schools of medicine, agreed with six of the nine lawyers of the Committee on the report as presented. The report was adopted unanimously. There is one salient feature in the report, however, that is at variance with the recommendations of the Committee of the Medical Society of the State of New York, and that is in regard to the fee to be paid to the medical experts. The proposed bill provides that medical experts shall receive merely witness fees at trial, unless otherwise ordered by the Court, while the recommendations of the Medical Society provide for much larger fees, that would be required to compensate medical experts for their testimony. This, however, is partially provided for in the following terms:

"In criminal cases for homicide where the issues involve expert knowledge or opinion the court shall appoint one or more suitable disinterested persons, not exceeding three, to investigate such issues and testify at the trial; and the compensation of such person or persons shall be fixed by the court and paid by the county where indictment was found, and the fact that such witness or witnesses have been so appointed shall be made known to the jury. This provision shall not preclude either prosecution or defense from using other expert witnesses at the trial."

If the Trial Judges will adopt this course, and are sustained by the Appellate Bench, courts of justice will be rid of corrupt, worthless, so-called experts, provided the judges themselves are animated solely by a wish to see justice properly administered.



## MEDICAL NEWS.

**Bulletin of the State Health Department**—The State Health Department reports that there were 133,441 deaths in New York State in 1908, being 8,449 less than in 1907. The total number of births recorded was 203,159 against 195,735 in 1907. New York City reported 73,075 deaths. Total number of deaths from tuberculosis was 16,521, or 11.9 per cent. of the total mortality. From typhoid fever there were 1,368 deaths, or 305 less than in 1907. From pneumonia there were 8,602 deaths, a decrease of 4,212 from the total of 1907.

**The Schenectady Physicians' Hospital**—This Hospital was opened for the reception of patients April 10, 1908. It is owned and operated entirely by physicians, having no staff, each physician taking care of his own cases. It is interesting to note the amount of work done at this institution during the past nine months, a report of which is made in the Albany Medical Annals for February. During the nine months ending January 5th, the following work was done: Patients admitted, 418; operations performed, 265; improved, 93; cured, 172; died, 11. Medical cases, 90; improved, 59; cured, 31; died (moribund on admission, 4), 14. Emergency cases (accidents, etc.), 63. Births, 3. Surgical cases are classified as follows: Abdominal sections, 156; appendectomies, 47; gall stones, 6; fractures, 12; breast amputations, 4; floating kidneys, 3; vaginal operations, 43; miscellaneous, 47.

**Sanitary Science and Public Health Lectures**—During March and April, a series of lectures will be delivered on Mondays and Wednesdays, at 5 P. M., at the College of Physicians and Surgeons, West 59th Street, New York City. The subjects and dates are as follows: March 15—Public Health Problems of the Nation, by Walter Wyman, M.D., LL.D., Surgeon General, Public Health and Marine Hospital Service of the United States. March 17—Milk Supplies and

Public Health, by Dr. Park. March 22—Infant Mortality and its Reduction, by L. Emmett Holt, M.D., Sc.D., Carpentier Professor of the Diseases of Children, Columbia University. March 24—The Prevention of Tuberculosis, by Hermann M. Biggs, M.D., Chief Medical Officer, New York City Health Department. March 29—School Hygiene and Sanitation, by John J. Cronin, M.D., Assistant Chief, Division of Child Hygiene, Borough of Manhattan, New York. March 31—Street Cleaning, Garbage Collection and Refuse Disposal, by Dr. Walter Benschel. April 5—Quarantine and Disinfection. (Lecturer to be announced later.) April 7—Tenement House Sanitation. (Lecturer to be announced later.) April 12—Diseases of Animals Transmissible to Man.—The Relation of Insects to Disease, by Theobald Smith, M.D., LL.D., Fabian Professor of Comparative Pathology, Harvard University. April 14—Personal Hygiene and the Hygiene of Communities, (Gymnasias, Public Baths, Playgrounds), etc., by Luther Halsey Gulick, M.D., Chairman, Playground Extension Committee, Sage Foundation, New York. April 19—Industrial Hygiene and Sanitation—Factory Inspection, Dangerous Trades, Preventable Accidents, Child Labor, by Mr. Hoffman. April 21—The Prevention of Alcoholism and Insanity, by Frederick Peterson, M.D., Professor of Psychiatry, Columbia University. April 26—Visiting Nursing and its Influence on the Prevention of Disease, by Richard Clarke Cabot, M.D., Instructor in Clinical Medicine, Harvard University. April 28—The Influence of Education on Public Health by Homer Folks, Secretary, State Charities Aid Association, New York.

The lectures are open to the public up to the capacity of the Hall. No tickets of admission are required, but the doors will be closed at 5.10 P. M.

F. P. KEPPEL,  
*Secretary of the University.*



Eastern L. I. Hospital, Greenport, L. I.



REPRODUCTION OF PHOTOGRAPH OF THE EASTERN LONG ISLAND HOSPITAL,  
SITUATED AT GREENPORT, L. I. IT IS BEAUTIFULLY LOCATED ON THE  
WATER FRONT AND IS WELL APPOINTED FOR THE CARE OF MEDICAL  
AND SURGICAL CASES.



**Ex-Medical Inspectors in Court—**

The ex-medical inspectors who were recently dropped from the pay-roll of the Department of Health have taken steps to force the Department to reinstate them. It is understood that 105 inspectors were discharged by Dr. Darlington when appropriation for the Special Division for Child Hygiene became exhausted. It was to head this division that Dr. Maxwell, our representative of the Health Department in Brooklyn, was removed to Manhattan.

**Psychiatric Treatment at Johns Hopkins University—**

On February 22d it was reported that Henry Phipps of New York, had donated \$1,000,000 to Johns Hopkins University for the establishment of a psychiatric clinic. The proposed building is to be devoted to the treatment of incipient insanity and allied disorders of the mind. It was also announced at the same time that the bequest of Harriet Lane Johnson, which is to be devoted to an asylum for invalid children, would net a half-million dollars.

**Woman's Medical Association of New York City—**

The Stated Meeting of this Society was held at the Academy of Music, 17 West 43d Street, New York City, on the evening of Wednesday, February 17, 1909. A symposium on the subject of Uterine Cancer was the theme under discussion.

**Medical Society of the State of New York—**

The annual meeting of the Medical Society of the State of New York was held at Albany, January 26, 1909. The attendance at the scientific session was very limited, but the members of the house of delegates were in full attendance. The question of changing the meeting-place for the Society was prominent, and a committee was appointed to make this possible.

**Alumni Association of the College of Physicians and Surgeons—**

On Tuesday, March 2, the Alumni of the College of Physicians and Sur-

geons of New York City celebrated the fiftieth anniversary of the founding of their Association. The semi-centennial dinner was held at Sherry's, in New York City. Among those present were Nicholas M. Butler, President of the University; Seth Low, former President of the University; and Samuel W. Lambert, who is the present Dean of the College and President of the Association of the Alumni.

**Fellowship in Pathology—**

The Committee on the George Bloomingthal Fellowship, Mt. Sinai Hospital, New York City, announces that the Committee will meet in March for the appointment of a Fellow for the ensuing year. Work done under the Fellowship—which carries with it an allowance of five hundred dollars a year—may be carried on either in Mt. Sinai Hospital or elsewhere, according to agreement with the Committee in charge. Applications for this appointment will be received on or before March 15, 1909, by Dr. F. S. Mandlebaum, Pathologist, Mt. Sinai Hospital.

**Prevention of Tuberculosis—**

The Brooklyn Committee on Prevention of Tuberculosis is conducting a traveling exhibit, which will be taken successively to various congested portions of the city, demonstrating to the tenement-house dwellers how to prevent tuberculosis.

**Health Department Building—**

Another delay has been gained by the Health Department authorities in the construction of the new building for Brooklyn. Commissioner Darlington has dismissed the architect, Bradford L. Gilbert, and blames him for the long delay in the building; the architect, in turn, blames the contractor. Mr. Gilbert has not indicated in his letter to Dr. Darlington that he would accept his dismissal and his representative is in daily attendance at Wiloughby Street and Flatbush Avenue, where the new building is to be erected. The architect claims that there are serious defects in the con-



struction of the building, as far as completed, which would endanger the further operations, and he claims that the only way to correct these defects is to tear down the structure as far as erected. The work was started early in 1907, and up to within a few weeks ago the only signs of work done were represented by the correspondence in the office of the Commissioner; nothing had been done upon the building itself. The Medical Society of the County of Kings filed a formal demand upon the Commissioner to continue the work, but Dr. Darlington's reply was that he

did not see what he could do. We hope soon to hear of the continuance of the work.

**Memorial to Dr. McCosh**—The Committee in charge of this memorial have decided to erect a building for surgical uses in connection with the Presbyterian Hospital of New York City, and it is proposed to expend the interest on the fund obtained by the subscription "for the benefit of self-supporting surgical patients who cannot afford accommodations which their education and station in life warrant."

---

### PERSONAL.

**Dr. Charles Jewett** has been appointed a member of the Committee on Experimental Medicine of the State Medical Society. He has also been appointed Consulting Gynecologist to the German Hospital. His recent resignation from the presidency of the Medical Board of the Bushwick Hospital has not yet been accepted by the Board of Directors, but it is understood that his decision in this matter is final.

**Death of William T. Bull**—Dr. Bull died in Savannah, Georgia, on February 23, 1909. The funeral services were held in St. Thomas' Church, New York City. Dr. Bull's attainments are too well known to need comment in a short notice. He died after many unsuccessful attempts were made to remove and check the growth of a cancer of the neck.

**Dr. Edwin Barnes Wilson**, 49 Bergen Avenue, Jamaica, will remove in April to 80 Fenimore Street, Brooklyn.

**Dr. Robert E. Hutchinson, Jr.**, announces the removal of his office from 44 Court Street, Brooklyn, to No. 11 East 48th Street, New York City. Dr. Hutchinson confines his practice exclusively to pyorrhea alveolaris.

**Dr. George E. Deely** has returned from a prolonged stay in Vienna and London, where he devoted his time to study of diseases of the eye, ear, nose and throat, and announces the opening of an office at 132 Montague Street. He will confine his practice to these specialties.

**Dr. Muren** has opened an office at 11 East 48th Street, Manhattan; but will continue his residence and former hours for consultations at 38 Orange Street, Brooklyn.

**Dr. William E. Butler** was admitted to the bar Wednesday, March 3, 1909. He has been appointed Chairman of the Legal Committee of the Associated Physicians of Long Island.



# TRANSACTIONS

## OF THE

### BROOKLYN PATHOLOGICAL SOCIETY

*488th Regular Meeting, November 12, 1908.*

The President, J. O. Polak, M.D., in the Chair.

#### UTERINE ADENOMA.

DR. RALPH H. POMEROY stated that this patient was a woman 72 years old, whom he saw last March for the first time by reference of Dr. Glentworth R. Butler. She was a widow, had had several children, passed the menopause at 50 and had been perfectly well. She was a slim, active Connecticut Yankee. For several months she had observed the passage of small amounts of bloody material, with attacks of pain, and in the interval, four or five days, a slight amount of watery discharge. Her general condition was very satisfactory. He curetted under anesthetic in March, and got out half an ounce of material that looked similar to curettings in cases of hyperplastic endometritis. This material was submitted to Dr. Dexter who reported hypertrophic endometritis. It impressed him at the time that the curet did not come well down to hard tissue, and he felt so doubtful that he did not attempt, until after getting a microscopical report, to clear out all the debris he could. All bleeding fully stopped for a month, when a moderate amount of pain with bloody discharge and watery flow between, again appeared. There was no evidence of laceration of the cervix and no foul discharge. The patient's general health was only affected by the fact that she was worried about the discharges.

May 25th he curetted more thoroughly, until he was perfectly sure he had reached the submucosa. About the same amount of similar material was brought away. Dr. Dexter's examination suggested the material might possibly be an adenoma. The whole question was whether her condition would justify a total hysterectomy.

She spent the summer in the country and returned this fall with a history of the same symptoms recurring, but her general health was much better. He advised that a hysterectomy be performed, and he did a vaginal hysterectomy three weeks ago. The patient made an uninterrupted recovery and went home on the sixteenth day.

The interest in the matter was the suspicion of malignancy and the question whether it was advisable in view of the possibility of malignant disease to operate in an elderly woman whose condition was otherwise satisfactory. The speaker stated that the decision to operate in a radical way depended on the clinical history and not on the pathological findings. The pathologist's report on both curettings was inclined to consider this condition a benign adenoma. His findings after removal of the uterus, showed the ground for radical action was well taken. The speaker stated he did not intend to discredit pathological investigation, but spoke for the absolute necessity of considering the clinical history with the pathological findings.

DR. THURSTON H. DEXTER said that the first curettings showed a marked adenomatous hyperplasia, showing a marked profusion of the glands of the endometrium. The second curettement done some months later, the report was of a strong possibility of adenoma, and he suggested from the microscopic appearance of the curettings, that the fundus was well filled with a distinct adenomatous neoplasm. He did not find any evidence to warrant calling it an adeno-carcinoma; there were no carcinomatous nests. He could get no indication as to



whether there was an ingrowth of adenomatous tissue. At any rate it gave the appearance of a profuse adenomatous outgrowth, and he contented himself with calling it that, and ventured the opinion that it might better be classed with benign adenomata, if any of them can be considered benign, rather than an adeno-carcinoma.

#### MYXO-CARCINOMA OF STOMACH.

DR. SIMON R. BLATTEIS presented the lungs, heart, stomach and esophagus of a woman 32 years old, single, whose father died at 69 from "stomach trouble" and whose mother died of cancer of the breast at 49. She was perfectly well until eight months before death, when she began to complain of dyspeptic symptoms, at first of a mild nature; these increased in severity, and necessitated her being constantly under medical supervision. She was admitted to the Jewish Hospital June 2, 1908, and died two days later of a sero-fibrinous pericarditis, an intercurrent affection, which apparently had no relation to her primary condition.

On autopsy he found a stomach whose walls were very much thickened, with marked increase in consistency; the cavity diminished to about one-third the normal; the walls varying in thickness from  $\frac{1}{2}$  c. m. to  $2\frac{1}{2}$  c. m. There was no part of the wall of the stomach which was not affected by this growth; no microscopic evidence of any mucosa present.

The lungs also showed an interesting condition. On the surface were numerous small, grayish-white nodules or plates, varying in size from a pea to a ten-cent piece. The pericardium contained about 40 c. c. of sero-fibrinous fluid whose cystology was that usually found; cultures were sterile.

At no time in the history of this case was there any evidence of tumor. She was under excellent observation for eight months, and no definite physical signs could be obtained of a tumor. She never vomited any blood, only occasionally towards the end, her

food; and in spite of this diffuse involvement, she did not show any very positive clinical symptoms of carcinoma. The gastric contents were repeatedly examined, and from the first examination the HCL was totally absent; no lactic acid was found, nor was the lactic acid bacillus at any time found. The question of HCL, whether absent or present, in carcinoma of the stomach, is very much under discussion, the speaker stated. Where we have a localized involvement of the mucosa of the stomach, the rest of the glands lining the mucosa can secrete sufficient HCL to make it evident by the ordinary tests, but in a diffuse involvement of this kind, its absence from the first is very readily explained.

The interesting points in this case, the speaker said, were as follows:

First. The age of the patient, 32 years. Osler and McCrae, in a series of 1,069 cases of carcinoma of the stomach, found  $2\frac{1}{2}$  per cent. of the cases under 30 years of age, and under that age the female predominated over the male in the proportion of 2 : 1, and over 30 the reverse was true.

Second. As to the degree of involvement: Welch, in 1,300 cases, found  $4\frac{1}{2}$  per cent. profuse.

Third. Metastases: These occurred in the lung in about 2 per cent. of his cases, in conjunction with metastases in other organs. In this case, there were metastases in the lungs only, an exceedingly rare condition.

Fourth. The histology of the growth was interesting. From a careful study of various sections, the condition seemed first to have been a diffuse hypertrophic cirrhosis of the stomach, into which there was a gradual infiltration of carcinomatous cells, and secondary to the malignant involvement, the myxomatous degeneration took place. The metastases in the lungs differed from the primary condition, in that there was very little hyperplasia of connective tissue of lung and pleura, but simply a carcinomatous area undergoing varying degrees of myxomatous degeneration.



## REMARKS ON CYSTITIS.

BY NATHANIEL P. RATHBUN, M.D.

*Author's Abstract.*

Cystitis must be distinguished from acute gonorrheal posterior urethritis and chronic non-venereal posterior urethritis, with both of which it is frequently confused. While they present a few symptoms in common, much of the symptomatology, the pathology, and treatment are entirely different.

True cystitis is always due to germ infection, entering the bladder by way of the urethra, the ureters, the lymph and blood channels, and by direct continuity.

There are two groups: I. Those in which the cause has ceased to operate, as in those cases produced by the use of unclean instruments. They are largely preventable. When they do occur, if seen early, the treatment is simple and the prognosis good. II. Those cases which are caused by and perpetuated by persisting cause. There are four types under this heading: (a) Cases due to active obstruction, as stricture or prostatic hypertrophy. (b) Cases due to passive obstruction, as in paralytic conditions. (c) Cases due to the presence of foreign bodies, as calculus tumors, etc. (d) Cases due to pyelitis and other infections higher up in the urinary tract. The treatment in each of these cases consists in removing the cause.

*Case Reports.*

I. Cystitis due to tight stricture, gradual dilatation; recovery.

II. Cystitis due to catheter infection in case of fractured spine with bladder paralysis; perineal section and drainage; recovery.

III. Cystitis due to papilloma; excision by supra-pubic route; recovery.

IV. Cystitis due to renal calculus; nephro-lithotomy and drainage; improvement with prospective complete recovery.

## TUBERCULOSIS OF THE KIDNEY AND BLADDER.

BY PAUL MONROE PILCHER, M.D.

*Abstract of Paper.*

Until recently the diagnosis of tuberculosis of the kidney has always been most difficult; with our newer instruments and wider experience we are now able not only to make the diagnosis more easily, but also to determine with considerable exactness the location and extent of the lesions. Unfortunately, however, the patient's attention is not directed towards the disease until the bladder has already become infected, and as a rule we have to deal with a disease of the kidney, ureter, and bladder.

In the cases cited by the writer of the paper, he had to deal with desperate conditions calling for different methods of procedure. The first, a large, bleeding, tubercular ulcer of the bladder, without involvement of the kidney but complicated by pulmonary tuberculosis and tubercular epididymitis; the indication here was excision of the ulcer and treatment of the complications, which resulted in recovery and the patient remained well for twenty years. The second, with disease of one kidney and extensive ulcerations of the bladder which required removal of the kidney and a resection of one-third of the bladder, with the result that two years after the operation the patient is entirely well. The third, a thoroughly septic patient with widespread disease of one kidney, extensive ulceration of the bladder, probable involvement of the other kidney, and pulmonary tuberculosis, in which the removal of the most extensively diseased kidney resulted in a great measure of relief to the patient and a checking of the disease, the bladder healing sufficiently to make the patient's life endurable. The fourth, with extensive ulceration of the bladder and a mild tubercular nephritis of both kidneys, in which local applications to the bladder combined with X-ray treatments and proper hygiene have robbed the disease of all its painful manifestations,



and the patient—who has gained fifteen pounds in weight—complains only of frequent micturition. What the ultimate results will be in this last case it is impossible to state, but the great improvement leads the writer to hope that ultimately some means will be found to eradicate the disease. At present, the X-ray treatments are applied over the kidney regions, and the marked reaction which the patient shows after each treatment would indicate that some good is being done.

Our own experience in these cases and in a number of other tubercular infections of the kidney, of lesser extent, lead us to conclude that in all unilateral tubercular disease of the kidney nephrectomy is the best treatment—the earlier, the better. In all cases where both kidneys are involved, when one is markedly worse than the other the removal of that kidney is indicated, provided it can be demonstrated that the kidney to be left is capable of carrying on the urinary functions of the body. We also conclude that the X-ray may be looked upon as a valuable aid in the treatment of tuberculosis of the kidney and bladder.

DR. HENRY H. MORTON stated that the classification of cystitis into idiopathic and symptomatic forms, as given by Dr. Rathbun, was an excellent one for clinical purposes. If a cystitis depends on some form of obstruction in the bladder, we know we can not do anything until the obstruction is removed. In order to treat these cases the diagnosis is essential, and to investigate the case properly, the examination must be made by a man trained to the use of instruments of precision. It is not possible for a man not trained to these instruments to handle them in a practical way. Often even men skilled in their use make mistakes.

Of course, the indications for treatment of cystitis are clear. First, keep the bladder clear of residual urine and remove any foreign body. That can only be done by removing the ob-

struction to the outflow of urine which prevents the bladder from emptying itself.

The question of malignant disease was slightly touched on in Dr. Rathbun's paper. It has always been under discussion as to what to do in carcinoma of the bladder, whether radical operation is the proper thing, or whether to treat the case by palliative measures until the end came. It always seemed to him that very little was to be accomplished by radical operation. He did the best he could with bladder washings, and subsequently when the bladder became contracted and the tenesmus was intense, he made a permanent fistula for the purpose of emptying and draining the bladder. The question always occurred to him if the patient was ever benefited by extensive removal. We read of the bladder being resected and the ureters implanted into the rectum, but we do not know what becomes of these patients afterward.

The question of tuberculosis of the bladder is also a very interesting one, and very much light has been thrown on that in the last eight or ten years. Formerly, we used to think that tuberculosis of the bladder could occur primarily, but autopsies and ureteral catheterizations have shown, that tuberculosis of the bladder is always secondary, in the great majority of cases, to kidney involvement. Tuberculosis of the bladder is exceedingly insidious in its forms. The symptoms are so slight as to be overlooked; slight frequency and nocturnal urination and a little pus in the urine. It seemed to the speaker that the responsibility for an early diagnosis in these cases lies with the general practitioner, and as Caspar puts it, "in every case of cystitis which is not improved by bladder washing, pyelitis should be suspected."

The microscope does not always help out in these cases of tuberculosis of the kidney, because a man may make a number of examinations of pus with the microscope and still fail to find the tubercle bacillus. There



was one test, however, which was absolute, and that was the inoculation of the guinea pig, and if tuberculosis occurs, of course, the diagnosis is made. The bladder urine can be used for this purpose but it is not as satisfactory as catheterizing both ureters and inoculating two pigs. We thus know which kidney is affected.

The importance of an early diagnosis in these cases is evident when we know the fact that tuberculosis of the kidney is unilateral at first, and some months or a year or two afterward the second kidney becomes involved, so that if the diagnosis is made early enough the tubercular kidney can be removed and the patient's life saved, and it is always possible to prolong the life of the patient in advanced tubercular disease of the kidney by doing a nephrectomy if the other kidney is intact. The speaker said he had several cases now under observation where he did a nephrectomy for tuberculosis of one kidney, and he was sure the men would have been buried months ago if the kidney had been left in and the disease left to take its course.

DR. HOMER E. FRASER said it seemed to him that as a rule patients attributed most urinary symptoms to disease of the kidneys, while on the other hand, too often among the doctors many of the symptoms are attributed entirely to the bladder. In pyuria, the first thing to determine is where the pus originates; the urethra, prostate or the kidneys.

Infection of the urethra is comparatively simple to diagnose because of the old familiar two-glass test. If the urine is cloudy in the first and clear in the second, the infection is in the urethra. Washing out the urethra and bladder and massaging the prostate and making a slide and examining under the microscope shows whether there is pus in the prostate. We now have the differential diagnosis between infection of the bladder and kidney, to know whether both are involved, and the use of the cystoscope becomes imperative. The cysto-

scope reveals the condition of the bladder wall, whether injected, whether ulcer or stone is present, and with the catheterizing cystoscope, one is able to determine whether one or both kidneys are involved. In this way one is able to diagnose whether the bladder or kidneys are impaired.

Another important point is the nature of the infection. The usual infection of staphylococcus, streptococcus or colon bacillus is determined by the microscope.

In regard to tubercle bacillus, the microscope does not always reveal it. If you find the tubercle bacilli, you are reasonably certain you are dealing with tuberculosis. The injection of the guinea pig requires time, four to six weeks. Of late, in several cases, we have injected Koch's Old Tuberculin, and in ten hours there has been a rise of temperature, showing we had tuberculous disease to deal with, and we immediately proceeded to operate. He did not know of any deleterious effects from the use of tuberculin as a diagnostic agent, and until he had some reason pointed out to him against its use would continue to use it.

DR. GEORGE MORGAN MUREN said that Dr. Rathbun, in speaking of posterior urethritis, which is so frequently mistaken for cystitis, particularly the non-infective variety, made a particularly good point for the general practitioner to bear in mind. The social system under which we live, he said, produces some weird conditions in the male reproductive organs, and the catarrhal prostate and the large and irritated seminal vesicles produce symptoms that the general practitioner frequently mistakes for some form of cystitis.

He wanted to object to the casual way in which Dr. Rathbun referred to the cystitis due to enlarged prostate, stating that the removal of the prostate effected a cure. He thought the removal of the prostate too often kills the patient. He believed it a mistake to speak lightly of prostatectomy, although we have been accus-



tomed to hear men do that, and the average paper on that subject exaggerates the favorable results of that operation.

Malignant disease should be left absolutely alone, unless it is some small spot that can be scraped, and these are rare cases.

In regard to the guinea pig inoculation with the urine, he had seen several cases of undoubted tubercular kidney, proved so by operation, where no reaction was obtained from the guinea pig test.

He wanted to ask Dr. Pilcher what he did with the tubercular epididymitis, whether he took out the epididymis or testicle, or did not interfere at all.

Dr. Pilcher, he stated, spoke of nephrectomy in certain cases, effecting a cure, very much as he would say that the mortality rate in appendicitis is nil. He thought that an exaggeration. Power, who produced the most carefully prepared statistics on this subject, gave a percentage of 25 per cent. of cures in favorable cases, and he thought that large. The average case of tubercular cystitis and nephritis runs along for months without any treatment at all. He had seen many of these cases where the bladder and kidney were involved, and the patients died under all sorts of treatment. It is very difficult to get them early enough, and when you do get them early enough, you can not persuade them to have their kidneys removed.

The cystoscope is always a great help. A great many tubercular bladders are so contracted they will not hold any fluid, and they can not be stretched like the ordinary senile bladder, sometimes not even under anesthesia.

Neither of the writers spoke of the examination of the urine in diagnosis. Heitmann, of Manhattan, has made diagnosis of tubercular kidney for him, in obscure cases, from the urine, where it could not otherwise have been made.

DR. JOHN D. SULLIVAN referred to a morbid condition of the bladder re-

sulting from a long-continued obstruction to urination attended with more or less residual urine, such as accompanies hypertrophy of the prostate and which frequently continues after the removal of the obstruction. The usual symptoms of cystitis, such as frequent, painful, and incomplete micturition are present, but on cystoscopic examination the mucous membrane of the bladder is found to be quite normal. The symptoms are usually dependent upon a pathological condition of the posterior urethra and some atony of the bladder as the result of decomposed residual urine for a protracted length of time. The pathological condition of the posterior urethra may be remedied by the application of a solution of the nitrate of silver varying in strength from 10 to 20 per cent. of the pure tincture of iodine applied through a posterior urethroscope, but so long as the atony of the bladder persists there will be more or less residual urine. This atony of the bladder is very difficult to remedy.

He knew of no treatment better than the regular and systematic use of the catheter to empty the bladder at least once or twice in every twenty-four hours. If the residual urine be allowed to remain it will undergo ammoniacal decomposition and keep up the morbid condition indefinitely. But if the bladder be emptied regularly, its muscular coat may regain its normal tone and function. He found that the administration of the compound tincture of iodine in from five to 10 minim doses, largely diluted in water, three times a day after or between meals, as good if not better than urotropin, for keeping the urine in an aseptic condition.

DR. S. R. BLATTEIS said a statement had been made that cases of urinary tuberculosis, in which the attempt at diagnosis was made by the use of tuberculin, and which gave a reaction in six to eight hours, did badly if an operation was immediately performed. The reason was asked why they did badly. He suggested



that the constitutional reaction is a reflection of the local condition, and we find after the injection of tuberculin that tubercular areas become extremely hyperemic and take on other evidences of an active stage. It would seem very logical that cases operated on in this stage would do badly.

He did not hear mentioned the typhoid bacillus in connection with cystitis. It is not a very rare occurrence to find the bladder ulcerated in the course of typhoid fever.

He saw a case recently, at autopsy, in which the bladder showed innumerable small and large ulcerations from which the typhoid bacillus was readily isolated.

In tuberculosis of the kidney or bladder, if that tubercular disease is sufficiently active to discharge tubercle bacilli, these bacilli have no other outlet, as a rule, but in the urine, and they must be found in the urine, and will be found by one method or another; if not, it is due to a fault in technic.

If we take haphazard 5 or 10 c. c. of the urine and inoculate a guinea pig and get a negative result, it does not necessarily mean no tubercle bacilli are being discharged from that bladder. At the Jewish Hospital, they collect, under sterile conditions, a 12 or 24 hour urine and centrifugalize it; stains are made of the sediment, and if the bacilli are not found after very careful searching, then 5 c.c. are injected into the peritoneal cavity of a guinea pig, and as a result they have

yet to find a negative result in the presence of tubercular disease.

DR. ROBERT L. DICKINSON said in so far as the bad cases were concerned he was in entire agreement with an able paper. It was important, however, that the beginning reaction against excessive surgery on tubercular kidneys be taken account of, and this society should not go on record without entering a protest against so general an attack on the tubercular kidney. It seemed to him only that kidney should come out within which you have no doubt the infection is considerable, and the destruction under way, and also the kidney that has resisted general treatment. He had no doubt that this practice would be accepted in the end. There is no question that the successes in a large number of operative cases are due partly to the general treatment. Tubercular kidneys are as much improved as tuberculosis everywhere else is improved by outdoor treatment, forced feeding and general care.

DR. N. P. RATHBUN said he did not mean to speak lightly of prostatectomy. In cases that are delayed the mortality rates are increased. Dr. Sullivan's cases were cases too long delayed, and the symptoms were due to thickening or sacculation of the bladder and inability to empty itself or to atony. Of course, removing the obstruction would not cure that condition.

He had seen no case of typhoid cystitis.

## TRANSACTIONS

OF THE

## ASSOCIATED PHYSICIANS OF LONG ISLAND

*Annual Meeting, January 30, 1909.*

The President, H. B. Delatour, M.D., in the Chair.

The meeting was called to order and the minutes of the previous meeting read and approved.

The following were proposed and elected members of the Association:

William Moitrier, 454 Putnam Ave., L.C.H., 1881.

Samuel K. Frost, 254 Garfield Pl., P. & S., 1895.



Burton Harris, 28 Clifton Pl., P. & S., 1901.

Edwin B. Wilson, 49 Bergen Ave., Jamaica, Albany, 1905.

George A. Ostrander, 61 Greene Ave., P. & S., 1858.

Armand J. Salmon, 166 Sands St., L.I.C.H., 1895.

H. B. Bayles, 125 Seventh Ave., P. & S., 1879.

Maurice J. Dattelbaum, 458 Stone Ave., P. & S., 1904.

William E. Joiner, 582 Bedford Ave., Bellevue, 1897.

Jacques C. Rushmore, 477 Washington Ave., L.I.C.H., 1903.

John S. Read, 228 Clinton St., L.I.C.H., 1902.

J. H. Droge, 8 Stuyvesant Ave., Bellevue, 1884.

The report of the Secretary was read, accepted and ordered filed.

The Treasurer's report was read and referred to Drs. McNaughton and De Lano as an Auditing Committee, who later reported that they had examined the accounts and vouchers of the Treasurer and had found them to be correct.

The report of the Historical Committee was read, accepted and ordered filed.

It was moved and seconded that a Committee be appointed to nominate officers for the ensuing year. Drs. Lanehart, Stivers and Bartley were named as such committee.

Resignations were received and accepted from the following:

C. D. Kevin, H. C. Riggs, W. S. Applegate and Stewart Lewis.

During the year there were five deaths, as follows:

Drs. James J. Terhune, Peter V. Burnett, Walter J. Corcoran, Frank R. Baker and William Maddren.

The report from the Committee on Country Home was read.

It was moved and seconded that the report be received, placed on file, and the same committee continued, with request to report at such time as they saw fit.

It was moved to amend that the present committee be enlarged by the addition of the ex-Presidents of the Association. Seconded and carried.

Original motion carried.

A report from the Committee on Publication was received and ordered filed.

### *Scientific Session.*

1. PAPER: The Organized Campaign Against Tuberculosis. By Livingston Farrand, M.D., Executive Secretary of the National Association for the Study and Prevention of Tuberculosis and Professor of Anthropology at Columbia University.

2. PAPER: What the City is Doing and Proposes to Do with the Tuberculosis Problem. By the Hon. Robert W. Hebbard, Commissioner of Public Charities.

3. PAPER: Tuberculosis Work in the Borough of Brooklyn. By Mr. James Jenkins, Jr., Secretary of the Committee on Prevention of Tuberculosis of the Brooklyn Bureau of Charities.

### *Executive Session.*

It was moved and seconded that it is the sense of this Association that Senate Bill 104 repealing the law prohibiting the establishment of tuberculosis sanitoriums without the consent of the town authorities where the sanatoria are to be established be repealed. Carried.

It was moved and seconded that a vote of thanks be tendered to Dr. Farrand and Messrs. Hebbard and Jenkins for their courtesy in addressing the Association. Carried.

The Nominating Committee reported the following nominations:

President—Frank T. De Lano.

First Vice-President—T. R. French.

Second Vice-President—Frank Overton.

Third Vice-President—W. B. Brinsmade.

Secretary—James C. Hancock.

Treasurer—C. B. Bacon.

By vote of the Association the above-named gentlemen were duly elected to office.

The Chairman installed Dr. De Lano as President.

Adjourned.

JAMES COLE HANCOCK,  
*Secretary.*



# TRANSACTIONS

OF THE

## BROOKLYN GYNECOLOGICAL SOCIETY

*Statcd Meeting, December 4, 1908.*

The President, H. C. Keenan, M.D., in the Chair.

### DEGENERATION OF SUBMUCOUS MYOMA.

DR. J. O. POLAK, presented a specimen of fibro-myoma of the uterus. It showed partial degeneration of a submucous myoma and a fibroid mass on the outside. The patient was 35 years old, never pregnant, and never had any symptoms that called her attention to the pelvis, save that she menstruated profusely for seven days. Six days before her admission to the hospital she had been seized with severe pain in the hypogastrium, and had a dark, bloody, fetid, vaginal discharge, which was different than the menstrual flow. On examination he found a tumor of the uterus, which was almost as soft as a three months pregnancy, yet had none of the positive signs of pregnancy. Besides this two nodules on the inferior wall could be felt. The diagnosis of fibroid was made and supracervical hysterectomy was done. On incision of the uterus a soft, degenerating myoma was exposed.

### PUNCTURE OF UTERUS BY CURET.

DR. J. O. POLAK presented this specimen, and related the following history:

Patient 32 years of age, had been married in June unknown to her family and became pregnant in August. She went to various physicians and solicited their aid. They suggested that the marriage be made public, and finally she announced the fact to her family, and everything went well until seventeen days before he saw her. At that time she claimed to have had a hemorrhage from the uterus, which had continued for seventeen days. The day before he saw her, the physician in attendance decided to empty the uterus. He anesthetized the pa-

tient, used a Goodell dilator to stretch the cervix, which was a long one, passed a long curet into the uterus to evacuate it. He removed the secundines, he said, and some parts of the fetus. She had considerable hemorrhage and the depth of the uterus frightened him. He discontinued his procedure, packed her with ten yards of iodoform gauze and left her. Saturday night he told the speaker of the case, and he told him, he thought he had gone through the uterus. The following evening her physician invited the speaker to see the patient in consultation; her pulse was 120 and she had severe epigastric pain. When Dr. Polak saw her, she had tenderness and tension over the abdomen; pulse 140, rectal temperature 104°. On vaginal examination the cervix was found to be the seat of several rents going into the fornices; one rent extended up from the cervical canal, anteriorly into the peritoneal cavity, so that he could feel his finger by abdominal palpation.

She was removed to the hospital,—and next day he operated and removed her uterus. The uterus was retroverted and incarcerated in the pelvis. The rent was in the front of the uterus and the fetus was lying between the uterus and the bladder. The abdomen was filled with blood and pus. The speaker made a rapid hysterectomy, closing the abdomen with vaginal drainage with gauze, and tube-drainage through the lower end of the abdominal wound. She was placed in Fowler's position and the tube aspirated from time to time. She made an uninterrupted recovery aside from a long and continuous temperature of 102.5° to 100°. Four days



ago after the gauze had been removed, she complained of a very fetid discharge from the vagina, and on examination he found a hard mass in the vagina, which on removal proved to be three of the bones of the fetal skull, showing the advantage of the Fowler position allowing the head to gravitate into the pelvis.

#### VAGINAL CESAREAN SECTION FOR DYSTOCIA.

DR. O. P. HUMPHSTONE said he wished to briefly relate the following case report of a woman who staggered into the Jewish Hospital giving the following history:

Seventeen years ago the patient had an attack of acute articular rheumatism. She does not remember being sick from that time till now. Her menstrual history was negative. The last menstruation was nine months ago.

Her obstetric history showed her to be a VI Para. Her former labors were easy, and she is now pregnant at term, with the following complications: Very short of breath, unable to lie down, with a hacking cough, very much swollen limbs, and lower body.

Examination showed an orthopneic patient with a pulse of 140. Her heart was acutely dilated, the apex midway between the mammillary and anterior axillary lines, diffuse. Her lungs were full of moist rales indicating edema. There was marked edema of the limbs and lower abdomen. A mitral insufficiency murmur was to be heard. The abdomen was very pendulous with a large umbilical hernia present. The uterus was of the size of full term, markedly anteverted. Vaginal examination showed great varicosities of the vulva and vaginal wall. The cervix was high up against the promontory, very fibrous and admitted two fingers. She had been in labor for three hours and it was evident that she could not deliver herself. It was determined that speedy delivery must be accomplished if her life was to be preserved. Vaginal Cesarean section was elected as the best method.

She was prepared and given chloroform with oxygen very lightly, in a semi-dorsal position, after free cardiac stimulation with strychnine, camphor, atropine and morphine. The anterior vaginal wall was split longitudinally from a point about 3 cm. behind the urethra. At the first introduction of the scalpel the hemorrhage from the dilated varicose vaginal veins was terrific, continuing in spite of efforts at hemostasis until the uterus was emptied when it stopped promptly. The incision was continued up to the cervix and the bladder being peeled back, up into the lower uterine segment a distance of about 10 cm. A live child weighing seven pounds was quickly delivered by version, the placenta and membranes manually removed. The uterus was packed with gauze. The wound in the uterus closed with the usual interrupted chromic sutures, a strip of iodoform gauze packed lightly between the uterus and the bladder, and the vaginal wound closed with a running catgut suture except for a small distance for the exit of the gauze. The vagina was loosely packed with gauze. Sand bags were placed on the abdomen as the uterus was emptied. The profuse bleeding seemed to do the patient good and she left the table in better condition as regards her circulation than at the beginning of the operation.

Her after care consisted in the exhibition of morphia and later spartine. The gauze was removed at intervals during the second 24 hours after operation. Her convalescence now on the seventh day has been uneventful. Her pulse is below a hundred, her hemoglobin is rising and her babe is nursing at her breasts.

#### PIN WORMS IN APPENDIX.

DR. A. M. JUDD said that three weeks ago he was called to see a girl ten years of age, who had been complaining for three weeks of pains in the lower right quadrant of the abdomen, no temperature nor chills, but who had been treated as a case of appendicitis, having had an ice bag em-



played for several hours at a time on different days. She would go around and play and come back to the house complaining of pain in the lower right abdomen. Last summer she had a similar attack and was treated practically the same way. The physical examination showed some slight rigidity of the right rectus muscle. There was distinct tenderness on deep pressure at McBurney's point. There was no mass, but some gurgling of the intestines. He thought he had a case of chronic appendicitis with adhesions, and when the cecum became distended the adhesions were pulled upon, thereby causing the patient pain. On taking out the appendix, which was lying loose, there were no adhesions at all. It was somewhat enlarged by some fecal concretions in it. The abdomen was closed. On opening the appendix it was found to contain pin worms.

The pathologist, Dr. Blatteis, reported as follows:

*Diagnosis.*—Ulcerative appendicitis of middle third, and subacute catarrhal inflammation of the other portions of the appendix.

This child was never known to have had pin worms.

#### *Abstract of Discussion.*

DR. J. R. TAYLOR said that some years ago he exhibited a specimen taken from a girl 10 years of age, in which the cause of the inflammation was evidently pin worms in the appendix. There were three necrotic spots, in each of which were masses of pin worms, 57 or 58 altogether. A case had been reported in Paris, France, several months previous, which was probably the first on record and several months after my case one was reported from Holland.

#### **OVARIAN PAPILLOMATA.**

DR. S. J. McNAMARA presented a specimen, and said the patient was 30 years of age and had four children. Examination revealed tumors in the abdomen. There were two growths, ovarian in character. The masses were irregular in surface and looked not unlike papilloma. They were re-

moved and sent to the pathologist with a diagnosis of papilloma. In looking them over the pathologist said they were probably carcinomata of the medullary variety. Later he gave the opinion that they were cystomata.

#### **UTERUS RUPTURED DURING LABOR.**

DR. S. J. McNAMARA related the case of a woman, 30 years of age, primipara, who was brought to St. Mary's Hospital after being in labor ten hours, the physicians having done a version, and in their attempts at extraction having pulled both legs off the child. The breech presented, the head protruded through the uterus and could be felt near the liver. The extraction of the trunk was impossible, so laparotomy was rapidly done, the fetus was taken out through the hole in the uterus, the placenta was found under the spleen. The uterus was empty. She had an intravenous infusion, but died in a few hours.

Replying to a question, the speaker said the rent in the uterus began at the cervix and extended up through the broad ligament. He has usually found rents in the body of the uterus.

#### **A UNIQUE CASE OF ECTOPIC GESTATION.**

DR. J. O. POLAK stated that the vagaries of the fecundated ovum in selecting a location for its development is well illustrated in the following history:

Mrs. R. S., a Russian, aged 28, was admitted to his service in the Jewish Hospital, May 4, 1908. Her previous history was that puberty had occurred at twelve when her menstruation assumed the regular type. She had had two children, both easy births, and five consecutive miscarriages followed the birth of her last child. She had no surgical treatment for any of these abortions. She menstruated last on February 28, 1908, and complained of pelvic pain during March, but skipped her period. In April a bloody vaginal flow appeared at the regular time, the metrorrhagia was irregular, and was accompanied with intense abdominal pain, cramplike in character, referred to the lower right quadrant



of the abdomen. She continued to have more or less pain for two days (April 27-28), which coincided with the occurrence of the bleeding. These symptoms were attended by several fainting spells.

On admission her hemoglobin was 55 per cent., and the red cell count 3,984,000. A tender mass was noted to the right and posterior of the uterus. Diagnosis, "Ovarian Cyst with Twisted Pedicle or Unruptured Ectopic" was made. On operation the former diagnosis was confirmed. A small dermoid of the right ovary, with the tube of that side was removed, care being taken to excise the uterine end of the tube well into the uterine cornu. This line of incision was closed with a continuous catgut suture, closing the muscle and peritoneum over the uterine ostium. Her recovery was uneventful, and she was discharged from the hospital on June 1, 1908.

This same patient was admitted to his service in the Williamsburg Hospital in September, 1908. She was in profound shock, pallid and pulseless at the wrist. Her abdomen was immensely distended, and dullness could be elicited in both flanks, temperature (rectal) 102°. She had skipped two periods, but had had no metrorrhagia up to the time she was seized with excruciating pain in the lower abdomen.

Vaginal examination was unsatisfactory owing to the exquisite tenderness within the pelvis; the uterus, however, could be made out forward of the pelvic fullness. The diagnosis of ectopic was made. Her condition was so desperate that his associate, Dr. Matheson, decided to defer the operation until reaction had occurred. She was placed in the elevated foot position, given  $\frac{1}{2}$ -grain morphine and kept at rest. Her hemoglobin was 40 per cent., but did not continue to drop. On the third day after her admission her condition was such as to permit operation, which was done by Dr. Matheson, who found the abdomen full of clotted blood due to a ruptured interstitial pregnancy at the

cornu of the uterus. No active bleeding was going on at the time of the operation. The cornu was excised, so that the musculature might be accurately coaptated, and the hemorrhage controlled by deep interrupted sutures through the uterine muscle. The abdomen was closed in layers and a smooth recovery followed.

The point of interest in the case was: how did the fecundated ovum migrate into the interstitial portion of the right tube and develop there, when that tube had been previously excised and the muscle and peritoneum closed over its abdominal ostium?

#### *Abstract of Discussion.*

DR. C. JEWETT had seen pregnancy occur where both ovaries were taken out directly afterward, the presumption being there was an ovum in the uterus which became impregnated immediately after the operation.

DR. J. O. POLAK said the specimen was of an eight weeks fetus. She left the Jewish Hospital on June 1st; she reappeared in the Williamsburg the latter part of September. He did not believe there could have been an ovum in that interstitial portion at that time. It was possible, but if so, the pathology in this case was wrong again.

#### THE PERITONEUM AND LYMPHATIC NODES OF THE ABDOMINAL CAVITY.

A PAPER WITH THE ABOVE TITLE  
WAS READ BY GEORGE MC-  
NAUGHTON, M.D.

#### *Abstract of Discussion.*

DR. C. JEWETT, speaking of the use of salt solution in the peritoneum, said the practice obtains with few operators. Theoretically, it helps to fill blood vessels after hemorrhage, to float intestines out of the pelvic cavity and thus to prevent adhesions, but practically recoveries are as good and sometimes better without it, unless perhaps after much blood loss. Its use when there are septic foci in the pelvis after Clark's method is not as safe as sponging dry. Nothing he thought was to be gained by the rou-



tine use of salt solution in the peritoneum.

The rôle of the atmosphere in infection must be a small one if we may judge by the good results we get in some of the dusty places in which we have had to work.

DR. J. R. TAYLOR thought the question of introducing saline into the abdomen in these operations after we have removed the infected material is not only proper, but does away with drains, tends to prevent adhesions, and if the saline is introduced just at the closing of the last two stitches in the peritoneum and after the table has been dropped to a level, there will not only be no difficulty in controlling it, but there will be the lack of interference with respiration. If the attempt is made while the patient is in the Trendelenberg position, the amount poured in will affect the diaphragm and there will be respiratory difficulty.

A number of years ago Dr. Butler made use of rubber dam in the abdomen for most of his work. He used a large sheet of rubber dam with a fold in one edge in which he inserted whalebone. After two years he threw it aside. The speaker uses rubber dam in the same manner, but substitutes flat steel springs for the whalebone. With this arrangement he can pass it into the pelvis so as to have the uterus, tubes and ovaries in front of him, the rectum and intestine back of the rubber dam, and in that way the edges of the incision and the broad peritoneal surfaces are walled off. If you wish to apply heat to the abdominal cavity, you can put the hot towels on the rubber dam. The rubber does not interfere with the smooth surface of the peritoneum, and it is removed the last thing before closing the peritoneal incision.

DR. C. R. HYDE stated that he would like to correct an impression he left, when he read his paper in regard to the relation between the appendix and right ovary, of a probable lymphatic connection between the ovary and appendix. That statement was criti-

cized by Dr. Jewett, who said that such lymphatic connection was denied. In a book, by Kelly and Hurdon, on appendicitis, he found that Kelly denies the existence of the appendiculo-ovarian ligament which Deaver speaks about and illustrates in his book on Surgical Anatomy. Kelly also cites three or four authors, one of whom made experiments on 107 cadavers and failed to find this ligament. Kelly says all one has to do to make a ligament is to take a fold of the peritoneum between the ovary and appendix and pull on it, and the so-called appendiculo-ovarian ligament will appear, but it does not exist as a distinct anatomical entity. To prove his assertion that there is no distinct lymphatic connection between the appendix and ovary, he says appendicular affections cannot affect the ovary and vice versa. He proved to his own satisfaction that the appendix and ovary have nothing to do with each other. He also proved experimentally by injecting the lymphatic system, and found the injection fluid went through the appendix lymphatics, down through those of the meso-colon and over to the ileo-colic group of glands; or it went through the cecum and later on through this same group of glands, and never once did the injection fluid travel through the appendix over to the ovary. When the speaker read the paper, he stated at the time, that there was probably lymphatic connection and gave a list of fifteen authors who substantiated this statement. Kelly has gone so exhaustively into this, and seems to have facts which cannot be controverted, that he thought Kelly was right. He believed whatever relation there is between the appendix and ovary is a matter of position only, and that one becomes infected through the other by this, and not because the infection travels through the lymphatics or the appendiculo-ovarian ligament.

DR. L. G. BALDWIN stated he would like to be regarded as still believing in salines as a very valuable aid in all cases where we have much dissection



to do and there are many raw surfaces left. He believed washing out with saline and then leaving the pelvic and as much of the abdominal cavity as can be got full of saline is of advantage.

Not only is it of advantage by floating the intestines out of the pelvis, but he believed it also is of great advantage in the prevention of distention afterward. He was thoroughly convinced that cases where saline was left in, in the proper way, have less distention than when it was not left in. He had abandoned it for a time and had gone back to it, and at the present time he is using it as much as he ever did, and was more convinced than ever that it is a valuable agent. He did not agree with Dr. Taylor that the time to put it in is when you have nearly sewed up the wound, because

you cannot get much in. The intestines have gravitated into the pelvis, and the water will be poured on the wound and but little will gain access to the pelvic cavity. His practice is with the feet a little more than below the level, washing out thoroughly from below upward, the fluid getting into the pelvis and then upward, and then slowly depress the head and fill the abdomen, having the first stitch in the peritoneum in place.

In regard to the leaving of blood in the peritoneal cavity after ectopics, if the blood is fluid he should certainly thoroughly agree with that practice, but if the blood is hard and clotted as in most of the cases, he would wash out the abdominal cavity.

An exhibition of Kelly's Stereo-Clin with Stereograms was given by Dr. Charles Jewett.

---

## TRANSACTIONS

### OF THE

## BROOKLYN SURGICAL SOCIETY.

*Regular Meeting, November 5, 1908.*

The President, C. H. GOODRICH, M.D., in the Chair.

---

#### INTESTINAL OBSTRUCTION TREATED BY INTESTINAL RESECTION.

DR. W. LINDER said this patient, a boy 12 years old, was operated on in June. Six months previously he was operated on for a suppurative appendicitis. He was sick three days when he entered the hospital as a case of intestinal obstruction. On opening the abdomen the peritoneum was found filled with blood. A large coil of the ileum protruded, which was gangrenous within  $1\frac{1}{2}$  inches of the ileo-cecal opening. He resected 60 c. m. of the ileum, and did a button anastomosis.

The wound was closed without drainage, and the boy made an uninterrupted recovery. Five days later he passed the button.

#### UNILATERAL HEMATOGENOUS INFECTION OF THE KIDNEY.

DR. A. T. BRISTOW said that within the last five or six years there have

been numerous cases of unilateral hematogenous septic infection of the kidney reported. The first one was in 1901 by Cabot. In 1906 Brewer, of New York, read a paper on the same subject, and he read one at the recent meeting of the American Surgical Association, and in the July number of the *Annals of Surgery* Cobb, of Boston, reported a number of cases. In all there have been about 30 cases recognized and operated on. The cause is an obscure one, difficult to recognize, and as the records show they are apt to be mistaken for other things. The onset is always obscure, and the patients suffering from this disease have been operated on for appendicitis, gall stones, gastric ulcer and sundry other things.

The pathology of the infection is more or less obscure. It is obscure because it is difficult for us to say why one kidney alone should be affected.



Nevertheless it is the experience of those who have had to deal with this disease that it is unilateral. Curiously enough it is the right kidney (80 per cent.) which is infected. Almost all the cases have occurred in women and the small abscesses are almost always cortical. That gives us a clue. There is a bacterial lowered resistance in the kidney and resulting glomerulitis, which is due to a bacterial thrombus and subsequent formation of minute abscesses proceeding to the destruction of a definite area of cortical substance. How are we to recognize these cases? He saw a case this morning in Montclair with the following history:

A lady, 56 years of age, previous health good. Was seen by her attending physician October 10. Her temperature on October 18 ran up to  $104^{\circ}$ , pulse 118, respiration 28. Next day her temperature averaged  $101^{\circ}$ . The day following the temperature was normal. She had a general sense of malaise with fever. The physical examination, including the urine, was negative.

October 22d her temperature was  $103^{\circ}$  at night and  $102^{\circ}$  the following morning. Frequent examinations of the urine were made. Then the doctor commenced to find a little microscopic pus, and the pus clumped, which is significant of pus rolling down the ureter; there was some tenderness in the left costo-vertebral angle; there were also pus cylinders. The diagnosis of pyelitis was made and she was given urotropin. Leucocyte counts were made on three different occasions and were negative, the highest count 9,500. At times the tenderness in the left renal region was very marked, and the patient complained of pain in the abdomen, and also complained of pain on taking a deep breath. Gradually the symptoms decreased, and there was a period of several days when it appeared that the whole trouble was going to clear up. A few days later her temperature suddenly dropped to  $96^{\circ}$  in the rectum, she had a chill and sweat, and it suddenly went up to over  $105^{\circ}$ . The speaker was sent for.

He examined the patient and found some abdominal distention with moderate tenderness over the abdomen generally; in the costo-vertebral angle he could palpate the kidney. The right costo-vertebral angle, however, was absolutely normal. Her temperature at seven in the morning was  $103^{\circ}$ , and at 10 o'clock  $103.2-5^{\circ}$ . Her general condition was good, and it was evident that he was dealing with an infection of the kidney. He believed the case to be urgent, and in connection with the toxemia he believed it would permit of no temporizing. He offered an operation, which was accepted, and he proceeded to cut down upon the kidney.

He found a kidney one-third larger than normal, congested and much softened, with darkening areas on the surface. He did not split the kidney because he was confident of the diagnosis. Brewer reported that all the cases which he had drained, died, and the cases in which he did a nephrectomy got well. The speaker did a complete nephrectomy and closed the wound.

At 7 P. M. the patient's temperature was  $99.2^{\circ}$ , pulse 110. She made an uneventful recovery.

The diagnosis in these cases is very difficult. You will always have tenderness in the costo-vertebral angle and the other symptoms are pus and some red cells in the urine. You have a moderate degree of renal tenderness, and pus only in microscopic quantities, but when you are confronted by a chill, as in this case, and symptoms of progressive toxemia, as evidenced by the profound shock when the temperature dropped to  $96^{\circ}$ , the sweating and chill, there is present a condition in which you must not temporize.

Every case reported by Brewer had a high leucocyte count. In three leucocyte counts made in this case, nothing was found. Though if it had been made the morning of the operation, there might have been a high leucocyte count. Where the cases are less acute you have time to catheterize the ureters and make a more certain diagnosis, but this case admitted of no delay.



DR. W. LINDER said that three months ago he saw a typical septic case. The patient had distinct tenderness over the kidney region. The kidney was found enlarged on palpation. A cystoscopic examination was made and showed the left kidney involved.

He cut down on the kidney and found it not adherent. There was one elevation at the upper pole of the kidney similar to the one Dr. Bristow showed. The remainder of the cortex was smooth. He split the kidney down to the pelvis, examined for similar lesions and could not find any. It looked too good to be removed, so he excised a V-shaped piece of the elevation on the upper pole. He sewed up with mattress sutures and had no hemorrhage. The patient made an uninterrupted recovery. There is now no pus in the urine. The microscope showed multiple abscesses.

The speaker thought it might be unusual to find but one lesion. There might have been other lesions which he could not reach by the usual bisection, but there was nothing to show on the cortex, and he was convinced there were no other lesions. He thought if we got the cases early we might be able to do an excision and save the patients a useful organ.

#### HEAD INJURIES.

A paper with the above title was read by Warren S. Simmons, M.D. For which see page 93.

#### *Abstract of Discussion.*

DR. W. B. BRINSMADE said it seemed to him that Dr. Simmons had taken the view most of us leaned to from our experience. He had had some unfortunate experiences with these cases recently in seeing them too late to put into use the practice the doctor had suggested in his paper. There was one thing that should be borne in mind and impressed more and more upon the house and ambulance surgeons who see these cases first, and that is, there may be a scalp wound that shows no fracture of the external plate of the skull, or only a long linear fracture, and yet that may be compli-

cated by fracture of the inner table or rupture of the middle meningeal artery and not recognized by external evidence. In all these head cases, if we have symptoms increasing in severity, we have a lesion increasing in severity and these cases need operation.

Cases that receive a serious scalp wound from an instrument, such as the fall from a height of a heavy pair of scissors, or being struck on the head by a brick, are apt to be followed by fracture of the inner table of the skull and rupture of the middle meningeal. These lesions may take place not only in the main, but in the branches of the middle meningeal, and you may have a serious hemorrhage therefrom.

He had one personal experience with the decompression operation. It is not an easy thing to do. In that case the patient who had loss of reflexes for three years, following a meningitis, was apparently benefitted for a few days after operation, but she died at the end of a week. He did not think the decompression operation of the brain is a thing to be lightly entered on, and thought there is no operation in surgery that requires more skill and knowledge of the parts attacked.

DR. P. M. PILCHER had one case in which a decompression operation was done. It was a man who was severely injured by a railroad train and received a fracture of the base of the skull. He was suffering with severe symptoms of compression of the brain. There were no absolute symptoms of a clot, but they decided to open the skull. He operated on the man in a poorly appointed house. He opened the skull in the temporal region and punctured the dura, letting out a large amount of serum. That was all that was done. The man reacted quickly. At the time he did not expect him to live. Following the operation of simply puncturing the dura and allowing the cerebral fluid to escape, he rapidly regained consciousness, and after a week or two was returned to full consciousness and eventually recovered.



# LONG ISLAND MEDICAL JOURNAL

VOL. III

APRIL, 1909

No. 4

## THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.\*

By S. R. BLATTEIS, M.D.

Pathologist to the Jewish Hospital of Brooklyn, N. Y.; Chief of General Medical Clinic. Jewish Hospital Dispensary.

SOME excuse seems necessary for presenting before a medical body any phase of a subject which in these days has been a most prolific source of discussion in international congresses, medical societies and even lay organizations, and upon which the number of papers written has been legion. Yet every paper, if it but present some new idea, or emphasize some important established truth, is an essential drop in that mighty ocean of protest against the ravages of the Great White Plague that is sweeping with terrific force throughout the length and breadth not alone of this country, but of the whole civilized world.

Were the subject of this paper entitled "The Earliest Possible Diagnosis of Pulmonary Tuberculosis," it would more properly express the idea most prominent in my mind in its preparation.

Incipient tuberculosis, as defined by the National Association for the Study and Prevention of Tuberculosis, refers to such cases showing: Slight initial lesions in the form of infiltration limited to the apex or a small part of one lobe. No tuberculous complications. Slight or no constitutional symptoms (particularly including gastric or intestinal disturbances, or rapid loss of weight).

Slight or no elevation of temperature, or acceleration of pulse at any time during the twenty-four hours, especially after rest. Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent.

While the importance of an early diagnosis is generally conceded, a few concrete illustrations might more emphatically impress us.

John H. Pryor,<sup>1</sup> from his experience in New York State Hospital for the treatment of incipient tuberculosis, the cases being selected in compliance with the definition just read, gives the following figures, viz.: Of incipient cases, 82 per cent. apparently recovered and 13.9 per cent. were arrested. Of moderately advanced cases, 22 per cent. recovered, and of the advanced cases none recovered.

From these figures we see that nearly 96 per cent. of recognizable incipient cases of pulmonary tuberculosis were able to return home, engage in some occupation and become useful members of society. The other 4 per cent. of incipient cases were divided about equally between cases simply improved and unimproved; only about one-third of 1 per cent. died while under observation.

If we include in the mortality rate of incipient cases also those simply improved and unimproved, we have an average death rate, at the very utmost, of 4 per cent. This compares

\*Read before the Section on General Medicine of the Medical Society of the County of Kings, December 14, 1908.



very favorably indeed with most of the acute infectious diseases, and also with those conditions requiring major operations.

And yet, if we were to tell our patient point blank that he has consumption, what a terrible shock it would be to him, his family and friends; but tell him that he is suffering from an acute infectious disease, or from some of the chronic diseases, as chronic Bright's, or that operation is necessary, this news would be received with comparative equanimity. But a different day is dawning; education in matters of health is becoming widespread, and it will soon be possible for the physician to adopt a line of conduct for all cases of tuberculosis that he can employ now only in exceptional instances.

Walter B. James, in a recent public address,<sup>2</sup> stated that it has been, and in a measure is now, the crying shame of the medical profession, that the diagnosis of tuberculosis is so long delayed, and that very often a keen and observant old woman makes an earlier diagnosis than the doctor.

Pannwitz,<sup>3</sup> of Berlin, makes the statement that every third death in the working period of life is caused by tuberculosis.

Bonney<sup>4</sup> examined 1,700 of supposed incipient cases of pulmonary tuberculosis on their arrival in Denver, and found disease in both lungs in 69 per cent., and in 53 per cent. of cases unmistakable symptoms of severe systematic disturbances, including the fever of mixed infection, emaciation, weak and rapid pulse, and physical signs of excavation.

Such is the class of cases that we of the East send out West. Yet, in a critical analysis of the history of these 1,700 cases, the clinical onset took place nearly two years before their arrival. Every death, therefore, above 4 in 100 that occurred in these cases and in thousands of others, can be traced either to the carelessness, ignorance or indifference of some physician. What a tremendous responsibility devolves upon us as medical men who hold the lives of countless thousands in our hands! Bearing all

these facts in mind, we hope and pray that in the great campaign of education that is so energetically being propagated throughout the land, that the physician will not be overlooked.

In the discussion of the means employed in an early diagnosis, I shall dwell more particularly upon newer methods, or upon the interesting features of old methods, and touch but lightly, if at all, upon those phases of the subject which are common knowledge to all, but whose importance, nevertheless, is not to be underestimated.

Among the factors in the early diagnosis of pulmonary tuberculosis, "family history" and the allied subject "hereditary predisposition" have always played an important rôle. Yet we come across the statement, by such excellent authorities as Cornet and Von Behring, that there is no authentic evidence to prove that there is invariably an increased susceptibility among descendants of phthisical subjects, and that for a diagnosis of tuberculosis *per se*, a tubercular family history has but slight, if any, import. On the contrary, the interesting observation has been made by H. M. King, that the children of tubercular parents inherit rather an immunity against, than a susceptibility for, the disease, for he found that the course of the disease in 103 fatal cases of pulmonary tuberculosis was one year longer in those of phthisical parentage than in others. With this idea, the general practitioner will find it hard to agree. There is danger, however, that a good family history may be misleading and delay an early diagnosis.

Of some importance in lessening the resistance of the offspring to tuberculosis is the presence in the parents of syphilis, alcoholism and various psychoses.

The condition of maldevelopment, or habitus phthisicus, is suspicious; it has reference to poor muscular development, a narrow antero-posterior diameter of the chest, winged scapulæ, small abdomen and conditions causing mouth breathing.

It is commonly taught that the char-



acter of the tissues involved in a tubercular process varies with age, for it is well known that lymphatic, meningeal, bone and joint tuberculosis predominates in early life. But along comes Woods Hutchinson,<sup>5</sup> of New York, with the statement that instead of tuberculosis having a special preference for the bones, joints and glands in childhood, the tuberculous process in these regions and tissues would appear to be secondary to the involvement of the lungs, and to represent a residual stage of a generalized infection, and that the moderate, but appreciable degree of immunity against pulmonary tuberculosis, possessed by children who have manifested osseous, articular or glandular forms of the disease, is possibly to be interpreted on the theory that they have already survived a considerable degree of pulmonary involvement.

The frequent occurrence of tuberculosis in diabetic subjects is explained by the fact that the presence of an excess of sugar in the blood and tissues favors bacterial growth; this is in conformity with our experience in the laboratory, where glucose media are found exceedingly useful for the growth of bacteria.

The psychoses, such as neurasthenia, hysteria, nervous instability, are often associated with, and have even been considered as, a symptom of latent tuberculosis. To what extreme one idea can be fostered is illustrated by the theory of T. J. Mays, who ascribes a nervous origin to all cases of tuberculosis dependent upon degeneration of the pneumogastric nerve.

Powell claims that an excess of phosphates in the urine is an early indication of pulmonary tuberculosis.

Also to be borne in mind as suspicious, is the presence of an ischio-rectal abscess or fistula-in-ano.

Among the causes which diminish individual resistance, producing an acquired predisposition, may be mentioned overwork, mental or physical, worry, dissipation of any kind, occupation, malnutrition and many others. The presence of malnutrition in a pa-

tient is of great significance in the diagnosis, treatment and prognosis, and to the fresh air and sunshine so ardently recommended, must be added "food," for the more consumption of food the less consumption of lungs.

In the course of some work on tuberculosis for the Department of Health, I made inquiries among the family and friends of those who had died of this disease, as to what they deemed to have been the origin of the sickness. I was surprised to learn that a great many dated the onset to a period immediately following an operation, and that the anæsthetic seemed to be the exciting factor in the production of the cough, this being considered by the laity as the first symptom of the disease. Enough emphasis, it seems, is not laid on this point.

We now come to a consideration, very briefly, of some of the biologic products employed for an early diagnosis. The most important of these is Tuberculin. Koch's Tuberculin, and similar substances, of which Baldwin<sup>6</sup> of Saranac, mentions sixteen modifications, are, according to Prof. Petruschky of Danzig, sterile, metabolic products of the tubercle bacillus, and depend for their action on the presence of nucleo-proteids or nuclein. All forms act similarly in causing local reactions about tubercles. However, neither this local or subsequent constitutional reaction is absolutely specific; various nucleo-proteids, yeast nuclein, bacterial proteids in general, and digestive products, such as albumoses, are capable of producing similar effects; also cinnamic acid, cantharidin, pilocarpine and other alkaloids act to some degree. These facts have tended to discredit the value of tuberculin as a delicate diagnostic agent, but in practice it has been found not to cause confusion.

Regarding the employment of tuberculin for early diagnosis, a good-sized volume could be written about its use and abuse. Extreme views are held by different observers. Pryor<sup>7</sup> states that its frequent employment, when quite unnecessary, may be explained



by the fact that tuberculin is injected into the patient and not into the doctor.

Lawrason Brown<sup>8</sup> has come to the conclusion that tuberculin should be used diagnostically, only as a last resort. When a patient with suspicious symptoms, with indefinite physical signs, and with no tubercle bacilli in the sputum on repeated examinations, wishes a positive diagnosis, tuberculin should be administered.

No case of early or incipient pulmonary tuberculosis has yet been shown to fail to react to a dose of .010 c.c. equivalent to 10 mg. or less of old tuberculin, and the same quantity never produces a typical reaction in a normal person. A safe initial dose for an adult is .0005 c.c. of the old tuberculin. If no reaction occurs, the dose may be increased to .001—.003—.005—.008, or even .010 c.c. In children, .0001 c.c. is a safe initial dose.

For two days before the injection of tuberculin the patient's temperature should be recorded every two hours while awake. After the injection, the patient should be kept quiet, and the temperature recorded for two or three days after the reaction. If the patient fails to react, the second dose should be given on the second day following, and subsequent doses to be repeated at the same interval.

Tuberculin should not be used when a patient's oral temperature reaches 100. It should never be used after acute diseases, nor for two or three weeks, at least, after a febrile attack of unknown cause; other contra-indications are, the presence of meningitis, heart disease, epilepsy, nephritis, etc.

The reaction observed after the injection of tuberculin has been explained by many theories, but the following seems most plausible, viz.: That the tubercle represents the unit of the mechanism of resistance, and is the expression of the local reaction of the tissues to the toxic products of the bacillus. The process is essentially conservative. That the tubercles are areas of latent or active tubercu-

losis, if they contain bacilli, constantly manufacturing their toxic products, or they are areas of healed tuberculosis if the bacilli are destroyed and no toxic products are manufactured. Upon the addition of tuberculin, which we have defined as the metabolic products of the tubercle bacillus, the actual toxic content of active or latent areas is increased and the surrounding tissue is called upon to combat or to neutralize a larger toxic dose. So we find upon microscopical examination, the blood and lymph vessels surrounding the tubercles dilated and congested, a serous and cellular exudate follows, and the lymphoid and epitheloid cells, already present, are increased in number, and that from the increased absorption of the soluble or partly digested products of the bacilli, whose activity has been stimulated by the addition of tuberculin, the local and constitutional reaction occurs.

This reaction is experienced by the patient about 18 hours after the injection, rapidly becomes more marked, and at its height consists of severe headache, general malaise, pain in the back and limbs, a slight tendency to cough, or an increase of an existing cough, loss of appetite, and at times nausea and vomiting. The temperature usually rises to 100 or 101, and at times higher.

It must be borne in mind that a tuberculous focus anywhere in the body may produce a reaction, and in a suspected pulmonary lesion a reaction is not proof conclusive without further evidence that the process is situated in the lungs, unless definite signs of a local reaction can be determined.

The von Pirquet tuberculin test, which consists in rubbing tuberculin into slightly abraded surfaces on the inner aspect of the forearm, gives a reaction in from twenty to twenty-four hours, manifesting itself in a hyperemic, indurated, rather sharply circumscribed area of about 1 cm. in diameter. The reaction subsides in from one to four weeks. No constitutional effect has ever been noted; besides a slight itching



and some tenderness, no subjective symptoms are noted. This test is simple in application, harmless, and the positive reactions range between 80 and 90 per cent. in favorable cases.

Another of the newer aids for the early diagnosis of pulmonary tuberculosis is the conjunctival-tuberculin test, which consists in the instillation upon the conjunctiva of the lower lid near the inner canthus of one drop of 1 per cent. alcoholic solution of tuberculin. The reaction, which shows itself either as a mild or a severe grade of conjunctivitis, reaches its maximum usually in about from twenty-four to thirty-six hours, and subsides in from forty-eight hours to a week.

In this connection I shall quote Calmette's<sup>9</sup> latest views as given out before the recent Tuberculosis Congress as follows, viz.: In general, early reactions are observed most frequently with suspected tuberculosis, and late and slight reactions, with developed tuberculosis. Experimental and clinical observations demonstrate that the ophthalmic test reveals most always active or developing tuberculous foci, but is negative with simple carriers of bacilli, and with those with calcified or healed lesions, who, it would seem, often react to the cutaneous tests. Repeated instillations of tuberculin in healthy subjects never give a reaction when the interval between successive instillations does not exceed five days.

Wolff-Eisner,<sup>10</sup> at the same Congress, states that the conjunctival reaction is absolutely without danger if the contra-indications are observed, and is positive in 80 per cent. of all cases of active tuberculosis in the initial stage. Besides the contra-indications of conjunctival inflammations, this test should not be employed when there is actual or suspected ocular tuberculosis, and when the patient has had an attack of tuberculous keratitis or phlyctenular conjunctivitis.

Hastings<sup>11</sup> of New York, Sanborn<sup>12</sup> of Boston, and Mary C. Lincoln<sup>13</sup> of Chicago, have done much valuable work on what is called the Tuberculo-Opsonic Index in the diagnosis and treatment of pulmonary tu-

berculosis, and while their observations have been of value, the complicated technic and special training required make it beyond the reach of the general practitioner.

The objection that may be raised against the employment of the above methods is the danger of placing too much reliance upon them, and of neglecting a careful, systematic and persevering study of all possible signs and symptoms as presented by the patient.

Symptoms almost invariably appear before physical signs are manifest in the lungs. A combination of loss of weight and strength, fatigue after slight exertion, loss of appetite, in other words a "run-down" condition, together with a slight cough, form one of the commonest onsets of pulmonary tuberculosis.

Among some of the early symptoms may be mentioned *cough*, which is more frequently present than any other initial symptom. Its persistence in the absence of readily explained causes, particularly with loss of weight and fever, are a combination of symptoms considered by some pathognomonic of incipient tuberculosis.

It is surprising to learn that 20 per cent. of all *pulmonary hemorrhages* appear in the midst of health, and is an early sign of pulmonary tuberculosis. It is to be differentiated from mitral disease, vicarious menstruation and purpura hemorrhagica. According to Lawrason Brown,<sup>14</sup> vicarious menstruation has not yet been proved to occur in normal lungs. The consensus of opinion is that every patient who has suffered from pulmonary hemorrhage, and in whom the diagnosis cannot be made in any other way, should be given tuberculin.

Most cases of idiopathic *pleurisy* are tubercular, and a dry pleurisy at one apex, or a double pleurisy without other discoverable cause, is nearly always tubercular, and should be so interpreted in attempting an early diagnosis. And yet we meet not infrequently cases, who, in the midst of perfect health, without any constitutional reaction, complain of a localized



pleuritic pain, which lasts a few days, and disappears, leaving no trace behind. For the general practitioner to assume these cases as suffering from tuberculosis is, to say the least, at times, impracticable. It is advisable, however, to take the clue afforded by this symptom and institute a careful and systematic examination of the patient.

Many patients have a slight rise of *temperature* for months before their attention is called to it by some other symptom. Fever in pulmonary tuberculosis is caused by the action on the heat centres of the tubercular toxins or *poteins*. Every known type of it may occur, but the usual temperature curve is one which is normal or slightly subnormal in the morning, and rises to 99.5 degrees or 100 degrees by mouth between noon and 9 P. M. As a rule, the maximum is between 3 and 5 P. M., and the minimum between 2 and 4 A. M. In healthy women the temperature of the premenstrual period not infrequently reaches 99.5 degrees or higher. A persistent slight elevation of temperature, without apparent cause, is a very suspicious symptom and should in many cases put us on the track of a latent tuberculosis.

The rule to examine the *sputum* of every suspected case of pulmonary tuberculosis admits of no exception, because occasionally tubercle bacilli will be found in the sputum long before any physical signs appear in the lungs. Sufficient emphasis cannot be laid on the fact that the absence of tubercle bacilli cannot be determined from one examination, but only after repeated, properly prepared and carefully examined slides, and then it should not be interpreted as indicating the absence of a tubercular process.

Where it is necessary to increase the bronchial secretion, potassium iodide may be administered with caution, or alkaline waters advised. Where no sputum can be obtained, and the patient coughs, Blume recommends to have them cough on large glass slides for eight or ten successive

mornings, and that these should be stained for the bacilli. Where an early diagnosis is of sufficient importance, the inoculation of the sputum into a guinea pig will often reveal the presence of the bacilli when they could not be found by any other method.

Abrams,<sup>15</sup> of San Francisco, as early as 1902, called attention to pulmonary *anemia* as one of the early symptoms of phthisis, and that it may precede any other recognizable sign. He distinguished this form of anemia from the essential anemias, by the loss of weight in the former, and the well-nourished condition of the patient in the latter; and further, that while ferruginous preparations benefit pure anemias, in pulmonary anemias they are practically valueless. Many exceptions, however, have been taken to his view.

The *X-ray*, except in the hands of the expert, may prove to be of little help; yet, Paul Kraus,<sup>16</sup> of Jena, stated at the Tuberculosis Congress in Washington, that the X-ray examination is superior to physical diagnosis, inasmuch as it shows that in many cases the process is more extensive than was at first supposed.

He concludes, however, with the statement that, in the main, the X-ray diagnosis merely confirms or completes the clinical findings, and is limited to the detection of differences in density in the lungs.

In the consideration of *physical diagnosis*, as an aid to early recognition of pulmonary tuberculosis, Bonney states: It can be assumed that whenever appreciable deviations from the normal are recognized, upon inspection, palpation and percussion, the infection has been of sufficient duration to preclude its classification under the head of incipency. In the light of the many newer aids available for early diagnosis, the medical profession will have to coincide with this view.

True incipient cases are recognized (from a physical diagnostic standpoint) solely by auscultation. The signs that can be solicited are: fine,



crackling rales heard at the end of inspiration following a cough. Persistent, sharp, localized, unilateral rales may usually be regarded as pathognomic of tuberculosis. While primary tuberculosis of the bases of the lungs may occur, it is usually secondary to an older apical lesion.

If, upon inspection, there is observed shrinking below the clavicle, it is in part, at least, due to atrophy of the pectoral muscles.

A difference in the size of the pupils has been noted in 15 out of 181 incipient cases, with the wider pupil on the diseased side, probably due to pressure on, or involvement of, the cervical sympathetic on the affected side.

It is well to bear in mind, however, that slight or indefinite physical signs, without symptoms, are not sufficient to establish a diagnosis.

A word as to the method of examination of the chest. How often have we observed attempts at physical diagnosis of a patient suspected to have incipient pulmonary tuberculosis, either by simply exposing the front of his chest, or perhaps an examination attempted through at least one covering; how often are female patients examined without ever being requested to remove their corset. An examination where the diagnosis will often depend upon a few crackling, hardly audible sounds, conducted in such a manner is, to say the least, preposterous; one might, with as much logic, attempt describing the character of the pulse through a gloved hand and wrist. It is not only useless, but dangerous.

A proper examination of the chest must be detailed and painstaking, must be upon the bare skin, and must cover the entire chest, the bases as well as the apices, and a careful search made after fine, moist rales following a cough and inspiration. This procedure may have to be repeated several times in the same way before one can arrive at any definite result.

In conclusion, permit me to say that if I have been time-consuming and patience-consuming, the import-

ance of the subject is my excuse. In the discussion of a disease, which so eminent a clinician as Janeway<sup>17</sup> says is one of the hardest problems in medicine to diagnose early, we cannot afford to neglect any salient feature.

When a disease which is universally conceded to be preventable, caused more deaths in the United States in one year than have occurred from yellow fever in 115 years; when throughout the United States one life is sacrificed every three minutes, night and day throughout the entire year; when in this country, 200,000 names appear annually on the death roll, caused by this disease, the time certainly seems to have arrived when concerted attempts to stop the slaughter must be inaugurated.

And whether or no success will crown the effort, will depend not alone on the solution of social or political problems, or on the activity of congresses or societies, but eventually upon the conscientious, honest and earnest effort of the general practitioner of medicine.

#### REFERENCES.

1. *Medical Record*, July 4, 1908.
2. Public Address, International Tuberculosis Exhibition, N. Y., Dec. 8, 1908.
3. International Conference on Tuberculosis, Phila., Sept. 23-26, 1908.
4. Bonney's Pulmonary Tuberculosis.
5. International Congress on Tuberculosis, Sept. 28 to Oct. 3, 1908.
6. E. R. Baldwin, *Osler's Modern Medicine*, Vol. 3.
7. John H. Pryor, *Medical Record*, July 4, 1908.
8. Lawrason Brown, *Osler's Modern Medicine*, Vol. 3.
9. International Tuberculosis Congress, Sept. 28 to Oct. 3, 1908.
10. International Tuberculosis Congress, Sept. 28 to Oct. 3, 1908.
11. International Tuberculosis Congress, Sept. 28 to Oct. 3, 1908.
12. International Tuberculosis Congress, Sept. 28 to Oct. 3, 1908.
13. *The Journal A. M. A.*, Nov. 21, 1908.
14. *Osler's Modern Medicine*, Vol. 3, page 330.
15. Albert Abrams, *Medical Record*, Feb. 22, 1908.
16. International Congress on Tuberculosis, Sept. 28 to Oct. 3, 1908.
17. Public Address, International Tuberculosis Exhibition, N. Y., Dec. 8, 1908.



# TUBERCULOSIS OF THE BRAIN AND ITS COVERINGS IN CHILDREN; PATHOLOGY AND DIAGNOSIS.

By LOUIS CURTIS AGER, M.D.

BROOKLYN-NEW YORK.

THERE are three locations in which tuberculosis may be found in the cranium and its contents.

1st. The bones.

2d. The brain substance.

3d. The meninges.

1st. *In the Bones*.—Almost all cases of tuberculosis of the bones of the cranium are the result of extension of tuberculosis of the middle ear, although the process may also be secondary to infection of some of the sinuses. In either case the disease requires the skill of the surgical specialist, and little time need be given to its discussion in this paper. The possibility of tuberculosis in all cases of chronic otitis media should not be forgotten, and if there is tubercular infection elsewhere it may be assumed to be the cause of the otitis. If properly treated, the prognosis is fairly good, although repeated operations may be necessary. If untreated, the process may break inward and produce a tubercular meningitis, or rather a mixed infection of the meninges, or it may heal by outward perforation of the mastoid with discharge of the carious bone. In one such case which I treated a number of years ago by free incision over the mastoid, the process seems to have been a final clearing up of a tubercular infection which had existed for a number of years, in various bony structures, more particularly in the spinal column. The boy had previously had two sinuses in connection with a dorsal tuberculosis and had been treated for a number of years at the Hospital for Ruptured and Crippled. When last seen he was apparently entirely well, with very slight spinal deformity.

*Tuberculosis of the Brain*.—It is impossible to determine from any records that I have been able to find just

how frequently the brain substance is the seat of tubercular infection. The autopsy records of the New York Babies' Hospital contain but one such case out of about thirty in which tubercular meningitis was found. I have been fortunate enough to have seen and studied two such cases, one of the single tubercle type, the other a case of multiple tubercles of both cerebrum and cerebellum. These histories will be given later. In these cases the direct cause of death was the secondary tubercular meningitis.

The more usual history of the brain tubercle is that of brain tumor, the symptoms depending upon the location, and we therefore get our chief knowledge of this condition from the neurologists. The work of Dr. Allen Starr is always quoted in this connection, and the facts given by him and others are briefly as follows: About one-third of all cases of brain tumors occur in the first two decades of life, and of these a large majority are brain tubercles. At the Karolinen-Kinderspital in Vienna out of 63 brain tumors examined 53 were found to be tuberculous. The average age in these cases was probably less than in the 269 cases in patients under 19 years analysed by Starr, of which 152 were tubercular.

Referring again to the Vienna statistics, we find that in 35 of the 53 cases there were multiple tubercles present, and that in 24 of the 53 the cerebellum was the seat of the infection. In Starr's table of 152 cases only 34 are classified as multiple. The most frequent locations were as follows: Cerebellum 47, pons 19, corpora quadrigemina and peduncles 16. Zappert says of these cases: "The tumors are spherical, with a poor blood supply, necrotic at the center, caseous, and surrounded by a layer of vascular granulation tissue which contains



giant cells and tubercle bacilli. Children who die of brain tuberculosis frequently have a terminal tuberculous meningitis, and always present other signs of tuberculosis, particularly in the glandular system."

The two previously mentioned cases of this somewhat rare type of tubercular infection were the following:

Female, age 8 years. One of six children, some older, some younger, all healthy. Father and mother healthy.

First seen December 21, 1906. State of alternating coma and left side convulsions. A similar attack had been treated and apparently cured by another physician two days previously. The family was in very poor circumstances, and had received a large donation of food a few days before. This child, with a marked tendency to constipation and an abnormal appetite, had eaten very immoderately. This was supposed to be the cause of the convulsions. The next day the child was much better, sat up in bed and took a little nourishment. There were no more convulsions for a week, but the child failed gradually. There was a moderate degree of fever most of the time. A spastic hemiplegia of the left leg and arm with athetoid movements of the hand was first noted about ten days after the first attack. This led to the conclusion that I was dealing with a right-sided meningeal hemorrhage. Even at this time, however, there were some symptoms of basilar meningitis, which increased rapidly during the next few days. Spinal puncture was made on the 4th and 5th of January, but no fluid was obtained. On January 14th about 5 c.c. of perfectly clear fluid were obtained, and on the 15th the fluid was quite turbid and contained diplococci and tubercle bacilli. The child died on the 16th.

The necropsy findings were as follows: Liver and intestines normal. Spleen about twice the normal size, contained many milliary tubercles. Heart normal. Both lungs filled with milliary tubercles in great numbers. They were very small and showed no evidence of breaking down. The

meninges showed a very moderate degree of inflammation at the base, but over the right motor area there was a circumscribed meningitis of a severe type. The membranes were adherent to the cortex; in some spots there was considerable fibrinous exudate, and there were chains of minute tubercles along the blood-vessels. Brain section showed a solitary tubercle about two c.c. in diameter close to the corpora quadrigemina. This tubercle was broken down and an inflammatory tract extended from it to the cortex of the motor area where it had evidently set up the local meningitis.

After the necropsy the following additional facts in the previous history were obtained: The child had been well until about two years previous to the last illness. At that time there were several convulsions during a period of about a week. From that time there had been a change in her disposition, noticed both at home and in school. She became peevish and at times morose; at times complained of headache and developed a very immoderate appetite.

From this history it seems reasonable to conclude that the first convulsions occurred at the time that the cerebral tubercle became large enough to produce reflex irritation; that the other symptoms were due to its gradual development, and that the final acute symptoms were produced by necrosis and secondary pyogenic infection which rapidly extended to the cortex. Although the cerebral infection was in all probability secondary to some glandular infection elsewhere, the general pulmonary tuberculosis must be considered, from the nature of the lesions, to have been still more recent. It was probably a sudden acute infection occurring at the time when the organism was no longer able to resist general invasion. This case may therefore be considered one of primary cerebral tuberculosis of the solitary type.

The other case was seen through the courtesy of Dr. Little at the Kings County Hospital.



Female, age 6 years. Previous history unknown. Came in with tubercular meningitis well developed. Both lungs showed evidences of advanced tuberculosis. Spinal fluid, turbid, many lymphocytes, many pus cocci, few tubercle bacilli. The patient lived less than a week. Necropsy findings were the following: The liver, spleen and kidneys contained numerous discrete tubercles, many of them containing thick creamy pus. The small intestines contained numerous small ulcers. The mesenteric and retroperitoneal glands were enormously enlarged, some the size of English walnuts. They had comparatively thin necrotic walls and contained thick creamy pus. The lungs were riddled with tubercles of various degrees of development, many of them evidently of long standing. Two or three had formed small cavities which also contained creamy pus. There was a very general purulent meningitis with considerable fibrinous exudate. The cerebellum contained a large number of discrete tubercles, the largest about the size of a small pea. The cerebrum also contained a few tubercles, most of them superficial. The brain tubercles were all necrotic and contained, like the rest, thick creamy pus. The contents of these tubercles, in addition to pyogenic organisms, contained an extraordinary number of tubercle bacilli—I have never seen a sample of sputum that contained more. Although the infection was evidently tubercular, the presence of such large numbers of tubercle bacilli in pus of this character was rather unusual. It probably indicated that this universal pyogenic infection was a very recent process, occurring in the terminal stages of the tuberculosis.

These two cases exemplify very clearly the two types of brain tuberculosis. The first, a solitary brain tubercle with the symptoms of brain tumor, later becoming the seat of a mixed infection and causing death by a secondary meningitis. The second, a case of multiple brain tubercle evidently secondary to a pulmonary infection.

*Tubercular Meningitis.*—Cephalic tuberculosis in a very large majority of cases takes the form of meningitis, and as has been shown above, even in those cases in which the primary infection is in the brain or cranium, a meningitis is apt to supervene. In order to determine the relative frequency of tubercular meningitis the following statistics have been compiled from the last full report of the New York City Department of Health—that for the year 1902.

COMPARATIVE TABLE OF DEATHS, NEW YORK CITY, 1902.

	Under five.	Five to ten.	Under ten.	All ages.
Pulmonary tuberculosis .....	134	105	239	7,569
General tuberculosis. 35	9	44		115
Abdominal tuberculosis .....	67	11	78	178
Spinal tuberculosis. 5	21	26		46
Miscellaneous tuberculosis .....	26	25	51	181
Meningeal tuberculosis .....	601	121	722	794
Total .....	868	292	1,160	8,873

For purposes of comparison the following figures from the same report are added:

Measles .....	663	37	700	710
Scarlet Fever .....	587	308	895	940
Pertussis .....	585	21	606	606

If these figures were considered alone very misleading conclusions might be drawn from them as will be shown later; they will therefore be considered in connection with the following table of necropsy findings in children given by Holt:

	119 autopsies (chiefly under 3 yrs.) (Holt).	131 autopsies (chiefly over 3 yrs.) Pen- dlebury Hosp., Manchester.
Lungs .....	117 99%	122 93%
Pleura .....	69 58%	100 76%
Bronch. glds... 108	96%	91 70%
Brain .....	40 37%	60 46%
Liver .....	77 65%	86 65%
Spleen .....	88 75%	76 58%

If the mortality statistics given above are analyzed at their face value the following conclusions must be drawn from them:



Pulmonary tuberculosis—Under ten, 1-5th; all ages, 9-10ths of all fatal tuberculosis.

General tuberculosis—Under ten, 1-30th; all ages, 1-75th of all fatal tuberculosis.

Meningeal tuberculosis—Under ten, 2-3rds; all ages, 1-10th of all fatal tuberculosis.

That these figures are misleading we all know, both from general teaching, from clinical experience, and from autopsy findings. In the case of children they merely emphasize two clinical facts:

First, that the early stages of tuberculosis in children are often overlooked.

Second, that meningeal infection is apt to occur early, and to be so severe as to overshadow disease processes in other parts of the body.

In regard to adults the figures are more nearly correct, but there is probably some error on the other side. That is, there are probably an appreciable number of deaths directly due to a terminal tubercular meningitis which are reported as pulmonary, because the pulmonary condition had been recognized and treated long before the meningeal infection occurred. In both children and adults it would be perhaps more accurate to call such cases "general tuberculosis," and to give secondary details as to the chief seats of infection.

On the other hand the statistics of necropsy findings given by Holt must also be studied in the light of clinical evidence to be rightly interpreted. When, for example, he states that in 99 per cent. of children dying from tuberculosis the lungs are infected, he only means that in all those children some slight pulmonary focus was found. The chief point demonstrated is that in a large majority of fatal cases of tuberculosis the infection becomes general at some period before death.

According to Holt the lungs and bronchial lymph nodes are almost invariably the primary seat of infection in children under two years, and it is usually the pulmonary process that is the cause of death, although in a few cases death is directly caused by a

terminal meningitis. During the third year meningitis is present in about one-half the cases of tuberculosis. After the third year tubercular meningitis is much more frequent and it often occurs with few, sometimes with no, pulmonary lesions, being secondary to some infection in the bones or glands.

Clinically there are two types of tubercular meningitis which bear very little resemblance to each other, particularly in their onset. They may be defined as acute or primary, and secondary, although in a strict sense the disease is always secondary.

By the secondary type is meant those cases which are secondary to some pronounced infection elsewhere, usually in the lungs or bones. Owing to the definite previous infection such cases are generally recognized, without difficulty, although it is impossible to determine the exact time of onset of the meningeal infection, as malaise, moderate headache, gastric irritability are to be expected in any severe pulmonary infection. In my experience the first symptom of any definiteness is continuous more or less severe headache, not always occipital. About a week later there appear progressively the more definite indications of cerebral irritation, strabismus and other eye symptoms, convulsions, the peculiar cry, exaggerated reflexes, etc. One important fact to be remembered is that cervical rigidity is present in less than 50 per cent. of the cases. Almost invariably, however, there is definite tenderness to deep pressure even when coma is present. In the terminal stage coma and flaccid paralysis are found, although exceptionally the child dies in convulsion.

*Acute or Primary Tubercular Meningitis.*—According to my experience the more acute cases are apt to occur in young children, sometimes in nursing infants, sometimes during the second or third year. They are apt to be children of exceptionally robust health—in every way above the average for their age.

This may be due to an increased pulmonary resistance produced by the



virility and activity of such children. As a result the infection cannot spread along the ordinary channels from some primary seat in the mesenteric glands to the lungs, but finds its secondary lodgment in the nervous system in such children, which is apt to be over-stimulated by the attentions of admiring friends and relatives. In a large percentage of such cases the source of infection cannot be determined; in others it is evidently due to association with some other tuberculous patient, frequently a nursing mother. It is impossible to determine how long the primary infection may lie dormant. Holt is of opinion that it may at least be several months. One of my patients, a boy of two years and four months, was apparently infected by a nursing mother who died when he was six months old.

In some instances the first symptom noted by the parent is a slight cough. This precedes the other symptoms by a week or ten days. There may be a slight bronchitis, but often nothing is found on examination. In such cases the cough is probably due to the pressure of enlarged lymph glands. During this period the child has periods of listlessness or irritability, which may be too slight to attract attention at the time. There may be moderate rise in temperature, but this does not always occur. If it were more frequently looked for, a subnormal temperature would probably be found in all cases at some time of the day. Suddenly the child passes from this condition of slight indisposition to very alarming symptoms. These may be convulsions of varying number and degree, or a state of coma or semi-coma and restlessness with apparent blindness, probably depending upon the degree and rapidity of toxic infection of the central nervous system. This coma is temporary and should not be mistaken for the later terminal coma. In either case the child may in a few hours be so much improved as to appear almost normal. It will recognize its parents, take nourishment and make some attempt to play with toys. This appear-

ance is however brief, another period of convulsions or coma supervenes; the next period of consciousness is shorter, and the disease progresses in this way in a few days to a state of lasting coma and death. In some instances the child dies during a severe attack of convulsions before the terminal coma is reached. Death usually occurs in from three to six days after the first definite symptoms. It is quite probable that these rapid cases in young children have at times been mistaken for epidemic meningitis. The disease ought, however, to be recognized clinically by the Cheyne-Stokes respiration and irregular heart, also by the findings in spinal fluid.

The temperature in these cases may follow one of two courses. In some instances—probably those in which there is a pure tubercular infection without pyogenic organisms—there is practically no rise in temperature until a terminal mixed infection occurs a few hours before death. In such cases the temperature may be subnormal much of the time, and coma is the rule rather than convulsions. In my experience such cases always yield a perfectly clear cerebrospinal fluid under considerable pressure, but the reverse is not true.

In other instances—in many of which the spinal fluid shows a mixed infections—the temperature fluctuates widely and often runs very high.

*Source of Infection.*—The source of the infection in a large majority of cases can be traced to direct contact with an open case of tuberculosis. This, however, is not always the case. The infection occurs sufficiently often in babies nursing from healthy mothers, to suggest by analogy that the milk is not necessarily at fault in those cases occurring in bottle-fed infants and in older children. In the present state of the anti-tuberculosis crusade I am of the opinion that a large amount of time and energy is being wasted on the question of milk-borne tuberculosis.

The most recent contributions to the vexed question as to the portals of entry and the paths of infection, teach



that either the respiratory or the digestive tract may be at fault. The indications seem to be, however, that the primary infection is more frequently in the digestive tract than in the respiratory. This seems reasonable when we remember that at the creeping and early walking age the amount of bacteria-laden matter that enters the digestive tract is many, many times greater than the amount that enters the bronchi. The question as to how long the disease may remain latent has already been discussed.

*Pathology.*—The post-mortem pathology is well known. The inflammation is usually confined to the membranes at the base, although it may be quite extensive or it may be localized elsewhere, as in the case of brain tubercle cited above. In exceptional cases there may be found what the French call "*meningite en plaques*," that is, small, discrete areas of thickened and inflamed pia adherent to the cortex. Pfaundler is of opinion that this is probably the condition that exists in those cases that have early convulsions. This is a plausible theory, but in my experience it is not borne out by the pathological findings.

The inflammation differs from other forms in that the exudate is slight. It may be gelatinous or serous, but there is little or no pus and only a moderate amount of fibrin. A very different picture from that seen in meningococcus infection. The cortex itself is often acutely inflamed, that is, there is a true cortical cerebritis. In addition to the meningitis the ependyma always shows some degree of inflammation, and in some cases it is definitely tubercular. In both membranes the tubercles are arranged along the minute blood-vessels. This has been taken to indicate that the blood is the carrier of the infection, but later studies tend to show that this appearance is due to the fact that the chief lymph spaces follow closely the lines of the blood-vessels and that the infection is in reality in the lymphatics. As a result of the

ependymitis there is found an internal hydrocephalus of varying degree, depending somewhat upon the length of time that the patient lives. The terminal coma is due to the pressure of this fluid. The ante-mortem pathology of the spinal fluid will be discussed under the head of diagnosis.

*Diagnosis.*—Although the tubercular meningitis is practically always fatal, there are two reasons why an early diagnosis is of great value. In the first place it is of vital importance to know that we are not dealing with cerebrospinal meningitis, which can be cured in most cases if recognized early. In the second place, in dealing with a disease that is always fatal we would be justified in trying any line of treatment that even had a theoretical value. Although operative interference has shown no encouraging results as yet, it is still quite possible that drainage and perhaps irrigation at a very early stage might be beneficial. Moreover, the careful study of the earlier stages might suggest some other experimental line of treatment.

Occasionally cases are seen in which some knowledge might be gained by the use of one of the local tuberculin reactions; as a rule, however, the diagnosis can be made by a careful study of the cerebrospinal fluid. The first step is therefore spinal puncture. This procedure is so simple and, if proper precautions are taken, is so devoid of risk that there can be no excuse for not making use of it in all cases. There are various spinal trochars made, or a good-sized aspirating needle will answer the purpose. The pain is no greater than in the use of a needle in other parts of the body, and an anesthetic is entirely unnecessary. Proper asepsis should be maintained. The child must be firmly but gently held when the operator is entirely ready to make the puncture. Very little force is required, and the sensation transmitted to the hand as the needle passes through the cartilage and slips into the canal is a perfect guide to a successful puncture. If the direction has been wrong so that the point of the needle touches the body



of the vertebra, usually the lower one, a slight grating is instantly felt. In that case the needle should be partially withdrawn and the direction changed. Aside from the danger of injuring the bone or breaking the needle, the slightest bone puncture should be avoided, as it may cause enough hemorrhage to vitiate the findings in the cerebrospinal fluid. The spinal canal is reached at a distance of about one inch. Usually the fluid will begin to drip as soon as the stylet is withdrawn. Occasionally it is necessary to reintroduce the stylet or to move the needle in and out a fraction of an inch or to raise the child to a sitting posture and to flex the spine more forcibly. With these manipulations fluid will almost invariably be obtained.

Much has been written both in this country and on the continent in regard to the examination of cerebrospinal fluid. Hand, of Philadelphia, has made many studies of the subject and his last paper has just been published in the January issue of the *Archives of Pediatrics*. He gives in detail the successive steps for a thorough examination. In the *Archives* for September, 1907, Holt gives some points of great practical value that have been evolved in the work in the Babies' Hospital. The chemical examination is undoubtedly of some value, although opinions differ as to how much reliance can be based upon such findings. If sugar is present and if the albumin is over 5 per cent. in bulk, the infection is probably tubercular. Macroscopically the fluid from a case of tubercular meningitis is

usually very clear unless there is a decided mixed infection. In some instances no sediment is obtained by means of the centrifuge and no fibrin network forms on standing. In the case of the child of two years referred to above the fluid drawn six hours before death, although it was under considerable pressure, yielded practically nothing that could be studied under the microscope. The diagnosis was proven by inoculation, in addition to the typical clinical picture. Usually enough sediment can be obtained with the centrifuge to make a differential white count. In tubercular infection a majority of the cells are mononuclear, in some instances over 90 per cent. Experience varies as to the finding of the tubercle bacilli in the fluid. The period of the disease at which the puncture is made has a decided bearing on this point. I have only found them at a late period. At the N. Y. Babies' Hospital they are found in practically every case, but in one instance over five hours was spent in the search. If the methods advised by Holt in the article referred to are followed the organism will be found in a majority of cases if the puncture is made late in the disease. By this time, however, the diagnosis will have been established clinically. In the earlier stages, therefore, nothing is gained by a protracted search. If there are clinical evidences of meningitis, if a clear fluid is obtained under pressure, and if this fluid is found to contain a marked excess of mononuclear leucocytes, the case may be considered tubercular, even if no tubercle bacilli are found.



# THE BACTERIOLOGICAL DIAGNOSIS OF DIPHTHERIA\*

By J. EDDY BLAKE, M.D.,

Physician to the Methodist Episcopal Home; Instructor in Surgery, New York Post-Graduate Hospital;  
Associate Surgeon, Brooklyn Hospital Dispensary.

WE all realize that the diagnosis of diphtheria from the clinical symptoms alone is often a difficult or even an impossible task; and that frequently the bacteriological laboratory is able to furnish us with a diagnosis when the clinical symptoms alone are insufficient to establish the true nature of the case.

For many years the Department of Health of the City of New York has maintained a laboratory and the physicians of the city are requested to send in cultures from the throats of all persons suspected of having diphtheria, that the true nature of the case may be determined as early as possible. And we have come to depend largely upon the Department of Health report to make our diagnosis. It all seems so easy. Infect a culture tube with a swab which has been applied to the throat of the patient; leave the tube at a neighboring drug store; and the next morning the Department of Health furnishes us with a diagnosis. That is the theory; and perhaps in most cases the report is correct. But is it incorrect often enough to make us doubtful of its accuracy in any particular case? If errors occur, what are the causes and the remedies therefor? It is in the hope of elucidating these points that I present the following series of cases. I do not expect to exhaust the subject, and hope that much of interest and value may be elicited in the subsequent discussion.

CASE I.—Miss E. This case was treated about two years ago. The patient complained of having had a sore throat and a slight fever for a couple of days. She did not feel very ill. Examination of the throat revealed a small amount of typical membrane on both tonsils. A culture was sent to the Department, and antitoxin was administered without awaiting its report. This came the next day, "negative." The patient promptly recovered, and dis-

missed the doctor in anger for having subjected her to unnecessary pain and trouble and expense by reason of the anti-toxin injection. In this case we cannot prove bacteriologically that the patient had diphtheria; but she had the clinical symptoms of the disease, and in view of our subsequent experiences, we believe we are justified in classing this with the other positive cases reported negative by the Health Department.

CASE II.—Mr. A. F., age 30. About a year since we were called to see the patient, who complained of severe pain in the throat and of feeling very ill. He stated that he had one large tonsil, and that he was subject to attacks of quinsy sore throat; and he supposed that he had another attack. The temperature was about 103° F. One tonsil was very large, and pus could be obtained from both tonsils. The case appeared to be a typical one of acute follicular tonsillitis, and was so treated for two days. Then we concluded that it was a case of diphtheritic follicular tonsilitis and administered 5,000 units of antitoxin. Just before doing so, however, we prepared two cultures from the throat, one for the Department, and one for ourselves. The next day we received the official report, "negative." The patient still being very ill, Professor John A. McCorkle, of Brooklyn, was called in consultation. There was now no question as to the diagnosis, for the membrane had spread over the fauces and into the posterior nares; and the effect of the injection could already be seen in loosening the membrane at points along the margin. But more antitoxin was considered advisable, and 4,000 units more were given. For some days the patient suffered from partial paralysis of the pharyngeal muscles and weak heart, but ultimately recovered perfectly. A day or two after the Department report was received, slides were prepared by us from the control culture kept by ourselves. These slides showed an abundance of diphtheria bacilli. The wife of this patient suffered from a sore throat for several days during the height of her husband's illness; but no membrane formed, and with the use of antiseptics, she soon recovered. A culture from her throat was sent to the Department and was reported negative, whether correctly or not we do not know, for no control culture was made.

CASE III.—Miss S., age 25. In the spring of this year, the patient came to our office complaining of a very sore throat, but not feeling ill. An examination revealed a dirty grayish adherent membrane covering parts of both pillars of one tonsil. The

\* Read before the Brooklyn Pathological Society, December 10, 1908.



tonsils were absent. A stained smear from the throat revealed the presence of bacteria having the general appearance of diphtheria bacilli. Two cultures were prepared. One was sent to the Department Laboratory, the other we kept. The next day the report of the Department was "negative." But a confirmatory culture was requested. This was sent three days later and was again reported "negative"; but I attach no significance to this second report, as antiseptics had been used in the throat too freely to expect any other than a negative report. The control tube which we preserved showed a characteristically staining growth. We treated the patient with antitoxin and other measures, and she made a perfect recovery. But for some days she suffered with difficulty in deglutition and with weak and irregular cardiac action.

CASE IV.—Miss F. C., age 30. A few months ago, the patient came to the office complaining of sore throat, but only felt slightly ill. There was a small membranous patch on one tonsil. A smear from the throat was stained, but was not conclusive. Two cultures were made at the same time, and one was sent to the Department. We received a "negative" report the next day. The following day we prepared a slide from our culture which showed a few diphtheria bacilli. The patient was never very ill and recovered within ten days. The day of her discharge from quarantine, we prepared and examined a slide from the control culture still remaining in our possession. In this we found an abundance of diphtheria bacilli.

CASE V.—Mrs. A. B., age 30. On October 7, 1908, was called to see patient, who was slightly ill with sore throat. The tonsils presented the appearance of a mild tonsillitis. Nevertheless, diphtheritic infection was suspected. Two cultures were made, using but one applicator to infect both tubes. One tube was left at a drug store for collection; the other was retained as a control. On October 8th the Department reported, "No diphtheria bacilli present," and did not even ask for a confirmatory culture. Immediately after taking the culture, the patient was directed to apply antiseptics to the throat. No antitoxin was used. On the following morning October 9th, the patient was discharged cured, and we concluded that our suspicion of diphtheria being present was incorrect. On that same day, October 9th, the control culture made on the 7th showed a suspicious growth: and a slide made at this time, *i. e.*, 36 hours after the culture was taken, showed a few bacilli present in an almost pure culture of staphylococci. A slide prepared from the same culture on October 10th, 72 hours after taking the culture, showed an abundance of diphtheria bacilli present; and slides prepared two and three days later showed an almost pure culture of diphtheria bacilli. That there might be no subsequent dispute as to the presence of

the bacilli, Dr. J. Eddy Blake personally presented the control tube and slides to Dr. J. S. Billings, Jr., chief of the Division, who verified the finding of diphtheria bacilli present. It should be noted that we first discovered the bacilli a few hours after the patient's discharge cured. And the following morning we were called to attend three new cases which had developed in the same family.

CASES VI, VII, and VIII.—Mr. A. B., husband of Mrs. A. B. (Case V), his sister-in-law, Miss C., and the servant X. All complained of sore throat and feeling ill; and each appeared to be suffering from acute follicular tonsillitis. Miss C. had in addition a typical diphtheritic patch on the posterior pillar of the right tonsil. As the control culture had revealed the diphtheritic nature of Mrs. A. B.'s illness, no time was lost in these secondary cases and antitoxin was at once administered to all three. Before doing so, however, culture tubes were prepared from each throat and sent to the Department. We made no control cultures in these three cases. The following day, the Department reported negatively on all three. This was not surprising in the case of the servant X., as an antiseptic had been used shortly before; but in the other two cases no previous treatment had been instituted. In each of these latter cases a confirmatory culture was requested. The servant X. at once went to her own home, and was afterwards treated by her own physician. We are advised by the doctor in charge that three cultures were made by him and were reported "negative" by the Department, and that she was never quarantined nor her premises fumigated. Mr. A. B.'s case was moderately severe, but presented the appearance of a follicular tonsillitis during the entire illness. Miss C., in addition to a mild tonsillitis, had a typical diphtheritic membrane on the posterior pillar of the right tonsil. Of the three cases, she presented the most characteristic appearance of diphtheria, but was the least ill. All three cases recovered. The premises of Mr. A. B. were thoroughly fumigated, once by the Department, and once by a private party. The maid then returned to the apartment, and a few hours later, Mr. A. B.'s sister, Miss A. B., came to stay with them. Within twenty-four hours after her arrival, she was taken ill, and came to our office complaining of sore throat.

CASE IX.—Miss A. B., age 25. On examination, October 27, a few specks the size of pin heads and a grayish patch about one-eighth inch in diameter were found on the posterior pillar of the right tonsil. The tonsil had been removed. Similar specks were scattered over the entire left fauces. There was in addition a general catarrhal inflammation of the entire pharynx. A small piece of the membrane was removed for examination, and a culture was made from the patient's throat, and also from the throat of the servant. The teased mem-



brane showed numerous diphtheria bacilli. The cultures were not sent in to the Department, as we had grown tired of constantly receiving negative reports from cases evidently positive. But after forty-eight hours, Dr. J. Eddy Blake prepared slides from the two cultures and presented them and the slides to the examiner of the Department at 55th Street, Manhattan Borough. He unhesitatingly pronounced "diphtheria bacilli present in each slide." The servant remained well. The patient was exceedingly ill. The membrane spread over the pharynx and posterior nares. She developed cardiac weakness and dysphagia. But finally, she made a good recovery.

Excluding Case I, in which no control culture was made, and in which the diagnosis cannot be proved bacteriologically, and Case IX, in which no culture was sent in, there remain seven cases of pharyngeal diphtheria in adults, in which the primary culture was reported negative by the Department, and in two of these seven cases one or more confirmatory cultures were likewise reported negative. In three of the cases, Nos. III, IV and V, we made control cultures, and in all three found the bacilli present. The control culture was always made from the same swab as the original culture, without reintroduction into the throat. In a fourth case, No. VIII, a culture examined by us proved positive after four successive cultures had been reported negative by the Department. (NOTE—All but the first of these were sent in by the patient's own physician, Dr. M.) In most of the cases a confirmatory culture was requested; but as a rule this request was not complied with. In our method of treatment, local antiseptics are used so frequently that subsequent cultures are generally of no value. In the single case where we did send in the confirmatory culture, we received a negative report as anticipated.

The question then naturally arises, why did the Department Laboratory fail to find the bacilli in this series of cases, and especially in those in which we found the bacilli present in the control cultures?

Several possibilities may be considered. First: Incompetency of the examiners. This would hardly be possible. The examiners are appointed

after competitive examination, and every slide is examined by at least two examiners before the report is decided upon. Second: Carelessness on the part of the examiners in making and examining the slides. During the busy season more than three hundred slides are prepared and examined each morning, and the examiners are too few to devote much time to each slide. It is possible that errors sometimes arise from too much haste in making examinations. But if the bacilli were present in any large number, they could hardly be carelessly overlooked; and we believe that the source of the Department's failure to find the bacilli must be sought in another direction. After the outbreak of Cases VI, VII and VIII, Dr. J. Eddy Blake went over to the Department laboratory and called on Dr. Billings in reference to the cases, and especially in reference to Case V, which case had been reported negative, although our control was positive. Dr. Billings kindly allowed Dr. Blake to examine the slide on file from which the Department report was made. If any bacilli were present in this slide, they were not discoverable amongst the vast number of cocci present. The report of the examiner, "No diphtheria bacilli present," was certainly justified, although the case proved to be one of diphtheria, and was followed by several others in the same family. Third, there might have been no bacilli present in the particular tubes sent in. It sometimes happens that even though bacilli are present in the throat, that none are transferred to the culture tube. This might explain a particular case, but it could hardly be true of a whole series of cases in the hands of a physician with a large experience in this particular line of work. Fourth, there might be too few bacilli present in the cultures for the Department examiners to find them. This might be true especially in cases of mixed infection, and mixed infections are the rule rather than the exception, especially in adults. If only a few bacilli are present amongst a mass of cocci, they might easily be overlooked



in the necessarily hurried examination. But why should our control tubes have revealed the presence of an abundance of bacilli, if they were too few to be found in the tubes sent to the Department? The only explanation seems to lie in a difference in methods of culture.

The tubes for the Department are collected late in the afternoon, and allowed to remain in the incubator at body temperature until the next morning, and they are then examined. During this period of about fourteen hours, the diphtheria bacilli multiply more rapidly than the other bacteria present, and form well-marked colonies, the nature of which is readily recognized by microscopic examination. This is the rule, but there are exceptions. In many cases the contaminating bacteria increase more rapidly than the diphtheria bacilli, so that after the lapse of fourteen hours, the bacilli may be too few to be found. This fact offers a serious obstacle to the early laboratory diagnosis in many cases, and I believe is the true reason for the failure of the Department to discover the bacilli in these and similar cases. Incubating the tubes for a further period of twenty-four hours apparently does not change the result. We have had it done a couple of times, but the report was the same. The contaminating bacteria continued in the ascendancy and the diphtheria bacilli remained too few to be discovered.

Our control tubes were incubated at a temperature of 75° to 80°F. and for a longer period. This method has the advantage that the contaminating bacteria grow very slowly at this low temperature, and that the diphtheria bacilli, though few, eventually outstrip the others, and are more apt to be discovered, if present. But there is a serious objection to making this the only method, in that no report could be made in less than a couple of days; and in many cases by present methods a correct report is possible within twenty-four hours. However, the objection is not as serious as at first it appears. For in a very large

proportion of the cases, a confirmatory culture is now asked for, and it is usually two or three days from the time the first culture was sent in, until the report from the confirmatory culture is received. And even this is frequently not satisfactory, especially in those cases in which an efficient disinfectant or antitoxin has been used.

In order to reach the utmost accuracy possible, two cultures should be prepared at the same time, and one incubated at body temperature for about fourteen hours, the other at about 75° F., for a couple of days. If the first showed a positive growth, it would not be necessary to examine the second; but if the first was negative the second would almost certainly reveal the presence of the bacilli, if the disease was true diphtheria and reasonable care was taken in making the cultures.

That the Department really does fail to find the bacilli in many cases in which the disease really exists might be inferred from the Department reports as well as from our experience. During the five quarters beginning January 1, 1907, and ending March 31, 1908, the laboratory examined 41,949 primary cultures. Of these the result was indecisive in 1,510, or 3.6 per cent. It was positive in 14,565, or 34.7 per cent. And it was negative in 25,874, or 61.4 per cent. In other words, of nearly 42,000 cases in which an examination was made the bacilli were only found in about one-third of the cases. It is doubtless true that many physicians send in cultures as a routine procedure in many cases in which no diphtheria is suspected and none is present. And this undoubtedly accounts for a considerable percentage of the failures to find the bacilli. Moreover, it is also true that in cases of primary laryngeal diphtheria in children, frequently no bacilli are to be found at all, or only late in the course of the disease. Furthermore, carelessness in making cultures may account for a certain percentage of the failures. But granting all these



causes for the Department's not finding the bacilli, we do not believe that the bacilli are only present in one-third of all the cultures sent to the Department for examination. In Iowa, the State Board of Health reports that of 453 cases examined during the years 1907-1908, the bacilli were found in 64.4 per cent. of all the cases examined. In those diagnosed clinically as diphtheria, the bacilli were found in 78 per cent.; while in those clinically diagnosed not diphtheria, the bacilli were found in 26.7 per cent.

We presume that the complaint of many doctors would be that patients are quarantined too long, and that Klebs-Loefer bacilli are reported present in the cultures when none are really present in the throat. This we doubt, and in our experience it has never happened. It is generally known that the bacilli continue in the throat for some time after the patient is apparently well; but it is apparently not realized how long they may persist. It is not at all uncommon for them to remain for several weeks, and numerous cases have been reported in which they persisted for two or three months. Furthermore, the bacilli are frequently present in the throats of persons who have not been ill with the disease. For example, some years since in this Borough, an epidemic of diphtheria was prevailing in a home for children. From one to three children a week were being attacked by the disease. Dr. J. A. Blake was requested to take charge and stamp out the disease. As a preliminary, he took cultures from the nasopharynxes of 152 children and 7 teachers, all apparently healthy. Of these, 19 children and 2 teachers, *i. e.* 13 per cent., were reported by the Department to have the Loefer bacilli present. As a matter of interest, it may be mentioned in passing, that the building was thoroughly disinfected; those harboring the bacilli were treated; and the epidemic suddenly terminated.

We believe that if a double cultural

should be adopted by the Health Department laboratory, a negative report from a positive case of diphtheria would become an extreme rarity. And if all cases of acute throat diseases were made reportable and cultures taken, the number of cases of diphtheria would diminish to a remarkable degree. For, although perfectly healthy individuals do sometimes harbor virulent bacilli in their throats and may communicate the disease to susceptible individuals with whom they come in intimate contact, we nevertheless believe that it is the mild unrecognized cases which are largely responsible for the continued dissemination of the disease. The system suggested would necessitate but a slight increase in the equipment of the laboratory. It would not be inconvenient to the doctors. There would be fewer requests for a confirmatory culture, and there would be fewer complaints as to the undependability of the Department reports.

This matter of definite and accurate reports by the Department of Health has importance, not only as to the correct diagnosis and treatment of the disease, but it also has an important bearing on our relation to the patient and his family. Suppose that a suspicious case of disease of the upper respiratory tract applies to a physician for treatment, and that a culture is made and sent to the Department. If the case is reported by the doctor as one of diphtheria, the patient will be subjected to all the annoyances of quarantine. Then if the Department returns a negative report, the patient is apt to disbelieve the diagnosis, and be annoyed at the trouble and expense incident to the physician's supposed mistake. This is not chimerical. It has occurred in several of our cases. And it is particularly apt to occur in mild cases, and in cases jugulated early by efficient treatment. On the other hand, if the case is reported as one of tonsillitis, pharyngitis, etc., if the Department report is negative, the patient will object to efficient quarantine, even though the clinical evidences of the disease be-



come characteristic; and if the report is positive, the patient *knows* that the doctor has made a mistake in diagnosis, and feels aggrieved thereby. In any case, if the report of the Department disagrees with the diagnosis of the family doctor, it tends to undermine the confidence of the family in their physician, or in the Health Department, either of which results is to be avoided if possible.

Until the bacilli are found in more than one-third of the cultures examined, it would certainly seem desirable to change the misleading wording of Note I, on the Department reports. This note read as follows: "In an extremely small number of cases of true diphtheria, the first culture may not contain diphtheria bacilli while they are found in a later culture." If our experience is a fair sample, the note should read exactly the contrary, namely: that in a very large number of cases of true diphtheria the diphtheria bacilli are not found in the first culture, while they may be found in a later culture; and that in some cases they are not to be found at all. Such a note would certainly help the physician to reconcile the report of the Department with the clinical diagnosis.

In conclusion we desire to express our appreciation of the courtesy shown to us in relation to these cases, by Dr. J. S. Billings, Chief of Division of Communicable Diseases, Department of Health, City of New York; and to Dr. James A. Blake for the privilege of reporting the cases, all but one having occurred in his practice.

NOTE.—Since the above paper was prepared, we have to record another failure of the Department of Health to discover the bacilli in a case of diphtheria.

CASE X.—Miss A. J., age 23. Cook in a large institution. On the 17th of February, 1909, Dr. J. A. Blake removed an exostosis of the septum. Patient called at the office

on the 21st and 28th insts. for observation. On the latter date she said that her throat felt a little sore. On examination, found a small amount of pearly white exudate nearly covering the space between the tonsillar pillars on both sides of the throat. The tonsils had been previously removed. The sub-maxillary lymph glands were slightly enlarged and tender. Temperature 98.8 degrees F. Pulse 80. Did not feel ill, and only came for examination of the nose. Three tubes were inoculated and a smear was made from a piece of the membrane. Dr. J. Eddy Blake stained and examined the smear and reported the presence of many bacilli, presenting the appearance of diphtheria bacilli. One of the three inoculated tubes was incubated at body temperature for 17 hours. A couple of slides were then prepared. These showed the presence of many cocci and a considerable number of diphtheria bacilli. The tube from which these slides were prepared was then deposited, March 1st, at a Department of Health receiving station, for we desired the Department's confirmation in this particular case. March 2d, instead of the positive report expected we received a request for another culture. On the following day, March 3d, the slides made from the culture afterward forwarded to the Department, the smear from the throat, and one of the control tubes which had been incubated at 75 degrees F. for 60 hours, were submitted for examination to the Hoagland Laboratory, from which we received the following report:

Brooklyn, N. Y., March 3, '09.

DR. JAMES EDDY BLAKE,

*My Dear Doctor:* Examination of the smear from the throat and culture tube in the case of Miss A. J. shows the presence of diphtheria bacilli in large numbers.

ARCHIBALD MURRAY.

In this case the failure of the Department to find the bacilli would have jeopardized the health and lives of the inmates of a large institution, if we had not independently made our own diagnosis, and instituted proper prophylactic and remedial measures.

Our thanks are due to Drs. Van Cott, Murray and White of the Hoagland Laboratory for their courtesy and assistance in confirming our diagnosis.



# SYMPOSIUM ON UTERINE CANCER.

## I. ETIOLOGY OF CANCER.

By GEORGE L. BUIST, B.A., M.A.

FROM the study of the etiology of cancer we must conclude that up to the present time at least there is no one definite causal factor.

Numerous theories have been advanced, the more important of which will be briefly stated with conclusions deduced from the same as set forth in Adami's Principles of Pathology and other sources consulted by me. There is nothing original in my remarks.

*Cohnheim's Theory.*—This is the so-called cell displacement theory, where in the course of development *rudiments* of embryonic structures, cells, or so-called "cell rests" have been displaced from their normal relationship. They are supposed to be the nidus from which cancer or any neoplasm may develop. This theory does not explain why all the abundant displaced cells or cell rests that we often encounter in the body do not take on cancerous growth. Nor does it explain why after remaining latent for years these displaced cells begin *active* proliferation. Moreover, a squamous epithelioma originating in the scar of an old ulcer starts from cells which must be regarded as having undergone not congenital, but post-natal displacement.

Adami contends that the theory of "cell rest displacement" is not absolutely essential, but accepts the theory of the transformation of *parenchymatous* cells *directly* into cancer cells. In other words, he with others, notably Horst Certel, holds that there is a direct cancerous transformation, for instance, of the liver cells, in a case of studied multiple carcinoma of that organ. He considers that the acceptance of this direct transformation theory must be taken into account in the development of any adequate theory of neoplasia.

*Ribbert's Theory.*—This is the so-called "tension theory." It is an expansion of Cohnheim's.

Cell displacement is the first essential. He holds that the displaced cells do not take on active growth *because* of proliferative activity on the part of the cells themselves, but because of *diminished* external resistance or diminished "tissue tension." He holds that the cell rest giving rise to cancer cannot have its cells arranged in the normal order, because if such were the case there would be present the normal "growth-restraining tension." Adami controverts this theory by calling attention to the fact that isolation of cell groups, irregular disposal of cells, and lack of restraining tissue tension are to be encountered noticeably in the healing of wounds, yet nevertheless in such cases the development of cancer is very rare.

*Parasitic Theory.*—He admits that certain data regarding the incidence of cancer have accumulated recently, which upon their face are difficult to reconcile with any theory save one requiring the increasing spread of some microbic causative agent. These are:

First. The rapid increase in the mortality from cancer in most civilized countries.

Second. The greater incidence of the disease, more particularly in certain low-lying localities, estuaries, and the border of streams.

Third. House incidence. Certain houses affording a mortality from cancer over a series of years in striking excess over the average. On the latter he lays no weight. But, he says, if malignant growth be due to micro-parasites, there is no *general consensus* as to the *nature* of the causative organism. Scarcely two men have found the same organism. Very much more work and wide-spread confirmation of results is necessary before we can be prepared to lay down that any form of micro-parasite is the specific causative agent of any form of malignant



growth. Our present stand must be one not of absolute denial, but of agnosticism. He believes that the above theories are inadequate, and that we are driven back to a change in the biological properties of the cells giving origin to cancer, and that we must look for an explanation of what initiates the change in these cells.

This, again, gets us into deep water. Von Hanseman seems to have been among the first to study the histological character of cells of malignant growth. He found that in them there was an irregular and a typical mitosis. He considered that the cells did not so much undergo degeneration proper, but that they became incapable of attaining perfect structure and function. This incapability of attaining perfect structure and function he termed anaplasia. He considered that the cells proper possessed some abnormal properties, one of which was that of increased vegetative activity. Here, also, Adami points out that there is no explanation given of the cause of the mitosis, or change of cells. Adami and Beneke favor the view that the mitosis is due to "increase in growth energy on the part of the cells with contemporary lowering of the functional activity." Marchand urges that there is degenerative change in the cell leading to faulty metabolism, and that the products of the perverted cell have a toxic action upon other cells in the neighborhood, weakening them, and in this way leading to unrestrained growth.

Undoubtedly the trend of recent work is to show that malignant tumors excrete substances, some of them of the nature of enzymes, which are of toxic nature. It is reasonable to infer that these toxins affect the surroundings tissues. Again, Adami notes that the primary cause of degeneration is not given.

Horst Oertel has tried to explain why some cells have attained the "habit of growth," and lost that of function. He suggests that in man the *single nucleus* contains *chromatin* of two orders, the one governing the

functional, the other the proliferative or vegetative activities.

That the primary cancer cell is a cell that has undergone the loss of certain chromatin constituents governing the functional activity, and when these are lost the cell cannot reproduce them. The cell which has lost the chromatin controlling functional attributes can only give rise to daughter cells minus these attributes, but endowed still with vegetative attributes. In this way races of cells are developed in which vegetative attributes are predominant, but functional attributes to a greater or less extent have become lost. Adami says it is a matter of future research whether the two orders of chromatin actually exist in the mammalian cell, and that the conception *has* some justification, while it affords an anatomical basis for an observed fact; namely, that the cells of tumors in general approximate to the vegetative rather than the highly differentiative type.

*Conclusions.*—We recognize some change in the biological properties of particular cells as an essential for cancer.

It is not something from without that determines the continued growth, not an external stimulus, nor again a diminished external resistance.

An external stimulus, it may be, starts the cells on that path which leads eventually to their assuming neoplastic properties; diminished external resistance may well favor active tumor growth; nay, more, it may well be that cells of a malignant type afford secretions inhibiting the growth, by depressing the vitality of surrounding tissue cells. *But all* these are subsidiary.

What is of prime importance is that cells giving origin to new growth are so modified that the energy acquired by the assimilation of food is not in the main discharged in the performance of function as in the healthy cell in normal relationship, but is characteristically retained and accumulated for purposes of cell growth and cell multiplication.

What is the nature of the change



we do not know with certainty. It is here we have to turn to hypothesis.

Biologists are beginning to see that changes in animals and plants are not chance occurrences. It is recognized that alteration in environment favors their more frequent appearance. Regarded thus, it is reasonable to regard the cancer cell as a mutation of the normal cell, for such a view is quite in harmony with the clinical observation that certain conditions—life period, trauma, chronic inflammation, etc.—favor the appearance of tumor change. *All recognize a change in cell properties, but none lay down what is the underlying influence or stimulus which brings the change about.*

Adami considers there is no one stimulus, microbic or physical, that is responsible for the change in cell properties; that there is no one specific causative agent, that a multiplicity of agents induce a particular grade of cell reaction; that all these causes may lead to a modification in the cell properties, a modification that is not transient, but permanent, and conveyed to subsequent generations. He holds that even if a specific parasite is found, that he believes that once cancer has taken on active growth the mere destruction of the parasite would not modify the properties already impressed upon the cell.

## GENERAL CONSIDERATIONS ON CANCER OF THE UTERUS.\*

By WALTER B. CHASE, M.D.

In a general survey of the subject, from the standpoint of the Gynecologist, the two outstanding facts concerning cancer are its frequency and the difficulty of its cure. The investigations as to the etiology, both at home and abroad, attest the superlative desire of our profession to discover this basic knowledge, to the end of its better management. The original research as carried on in this State, both in this Metropolis and at Buffalo, is a matter of congratulation to the profession of this Commonwealth. On some points there is entire unanimity of opinion as to its nature, on the other the widest diversity of views prevails. The former theory that cancer was a constitutional disease has no supporters—but all agree that in its incipency it is of local origin. So, too, in its mode of dissemination, from its local habit, there are no conflicting views; the law being that carcinoma in all its manifestations is transmitted through the lymphatics, and that the spread of sarcoma is through the blood channels. This explains the wider and more rapid dissemination

of sarcoma. The germ or parasite on which its specific and malignant influence probably depends, has not as yet been demonstrated, and divers theories are held as to its genesis and form. As to its histology we may epitomize our knowledge of cancer by saying it is most likely due to cells, epithelial or connective, out of time and place. Enough, however, is known to inspire the hope that the truth will soon be known, and more effective methods discovered for its palliation and cure. Until such data is established, the first duty of every medical man in this connection will be that of early diagnosis. The difference in many cases of its early or late recognition is of the highest importance to its unfortunate possessor. Its invidious approach, its difficulty of early differentiation, its relative fatality, and the horrible suffering inseparable from its presence should conspire to such early scrutiny by all radical methods, as will insure the best possible results.

A lack of appreciation by so many practitioners of those early conditions associated with uterine malignancy, is and will continue to be a serious barrier to early, rational treatment. The

\* Read before the Brooklyn Gynecological Society, January 8, 1909.



special interest which gathers around this brief symposium will center on the early radical and later palliative treatment of this disease. While there is, with those who make special study of diseases of women, a fairly well defined consensus of opinion as to early operative interference as of the highest importance, there is not unfortunately equally intelligent conception of the best methods to be adopted as the relief to be obtained by palliative treatment, in cases before considered hopeless, and I believe the views which will be advocated by the fellow who discusses this aspect of the question as developed by a former honored President and Fellow-Doctor, John Byrne, is entitled to more universal consideration and adoption. A growing appreciation of his work is already apparent.

The statistics of cures is most unsatisfactory as related to its great frequency. Not that recoveries do not follow operative interference, but the fact remains they bear a distressingly small ratio to the number of operations made. This truth—unwelcome though it be—has so impressed some timid souls, as to lead them—if not in word, in effect—to advise against all operations. The vantage ground lost by such pessimism and procrastination is attested by its melancholy and remorseless consequences. Intelligent, consistent and persistent effort must and will be so directed along professional channels, that right thinking and logical acting will correct and eliminate these enormous sentiments and afford an earlier and wider scope for their beneficent operation.

## THE RADICAL ABDOMINAL OPERATION FOR CANCER OF THE UTERUS.

By CHARLES JEWETT, M.D.

This is an attempt to do for uterine cancer what has been done for mammary cancer. Most conspicuously identified with the radical departure are Mackenrodt, 1894, Rumpf, Ries and Clark, 1898, and Wertheim, 1900, and 1903.

Thus our own countrymen have taken a prominent part in developing the new procedure and Wertheim, whose name is so intimately associated with the radical operation, was antedated by Ries, Clark and Werder.

A few operators, notably Ries and Wertheim, still practice the extirpation of the lymph glands. Most others have abandoned it, still holding to wide local extirpation, including a part of the vaginal. Some of the objections to the removal of the glands are the following:

The primary mortality is greater; it affords no definite assurance of non-recurrence; in operable cases the glands are not often involved; in any case in which operable glands

are involved the higher (in-operable) group also is probably affected.

Usually it is impossible to determine clinically whether the glands are involved or not. Enlarged glands are not necessarily cancerous and cancerous glands are not necessarily enlarged.

Schauta has shown that in only 13.3 per cent. of glandular involvement is it largely in the pelvic area in which the glands can be totally extirpated.

Clark reminds us of the fact that glands are not the sole seat of disseminated cancer cells; they may be in the lymph vessels and in the connective tissue around them.

### ESSENTIAL STEPS.\*

1. Preliminary curetting and cautery ten days before operation, under

\* The main points in the following technic are those practiced by J. F. Clark as detailed by the speaker before this Society some twelve months ago.



gas and oxygen, or as the first step of the operation.

2. Catheterization of the ureters before anesthesia.

3. Trendelenburg posture. Abdominal incision from umbilicus to symphysis. Recti may be cut at the pubic attachment if necessary. Hot damp pack. Poten's method is not recommended. It is complicated and likely to be followed by suppuration.

4. Exploration with reference to the extent of the disease. Apparent involvement of iliac, lumbar or sacral glands, extension to bladder or rectum or wide extension in the parametria should forbid radical operation.

5. Ligation of ovarian vessels, beyond the tubes, tying in two places and cutting between with a cautery knife or Downes' clamp.

6. Ligation and section of the round ligaments, well away from the uterus, using cautery.

7. Splitting the anterior fold of peritoneum from one incision of the ovario-pelvic ligament to the other, across the front of the uterus.

8. Separation of the bladder from the uterus and vagina.

9. Lifting the anterior peritoneal flap toward the pubic bones and isolation of the lower portion of the ureter on each side, from the point where it enters the bladder to the parametrium. Without catheterization, the ureters may more readily be exposed by splitting the peritoneum from the bifurcation of the iliac vessels down along its course. Care is used not to injure the periureteral plexus of vessels. Wertheim's method, boring his fingers through the parametrium from behind, as Baum says, sometimes lacerates the uterine vessels.

10. Isolation of the uterine artery and vein by blunt dissection and ligation without the point where the ureter crosses them but with care not to include the superior vesical artery, owing to the greater danger of cystitis if the superior vesical is cut off.

Splitting the posterior peritoneum from one incision of the ovario-pelvic

ligament to the other, across the pouch of Douglas, well back of the uterus.

11. Ligation and division by cautery of the uterosacral ligaments, near their sacral attachments.

12. Freeing the vagina by blunt dissection on all sides, one-third the way down. A rubber tube in the rectum, as suggested by Sampson, and the fingers of an assistant in the vagina are useful as guides.

13. Ligation and division of the parametria, well out toward the pelvic wall. The uterus is drawn strongly to one side, the ureter of the opposite side is held well away and the parametrium clamped and cut as far out as possible, using cautery.

14. If iliac glands are to be dissected out, this should be done before the uterus is removed, as suggested by Ries.

15. Clamping and amputating the vagina with the cautery knife or clamp well below the cervix. Right angled or curved clamps may be used, each engaging the entire width of the vaginal tube and the vagina cut between them. Wertheim uses two right-angled clamps, overlapping, and cuts below them.

A sound in the bladder and the fingers of an assistant in the vagina may be useful precautions in locating the clamps.

It will be noted that all pelvic attachments of the uterus are divided with a cautery knife or with the Downes' clamp. But the clamp is not trusted for hemostasis. All vessels are ligated.

16. Thorough cauterization of wound surfaces, avoiding ureters, bladder and rectum.

17. The vaginal stump is partially closed with sutures.

18. A light gauze pack is left in the vaginal stump barely extending into the subperitoneal wound.

19. The peritoneal flaps are sutured over the wound.

20. The abdominal incision is closed.

Urotropin is exhibited during convalescence, gr. V., t. i. d. for the prevention of cystitis.



While the abdominal route is generally preferred, Werder, Faure and others do a combined abdominal and vaginal operation. The latter method the speaker has found of advantage in certain cases.

The writer calls attention to a paper recently read by Ewing. He makes a classification of chorioepithelioma into three divisions, the first of which is benign, the last the most malignant of all growths, and the other intermediates. Benign cases should not be operated upon. He did not know how we can differentiate from the clinical standpoint. The pathologist may help us.

With reference to clamps and ligatures in vaginal hysterectomy, Dr. Baldwin thinks we get farther out upon the parimetria with clamps. Yet we pull down the tubes and ovaries, and I am sure we get quite as far out on the ovario-pelvic ligaments with the ligature. An advantage of the ligature is that we can suture the peritoneal flaps together and shut off the peritoneum from the field below, which is not done with clamps.

A serious objection to morcellation is the danger of transplanting cancer cells.

The speaker made the following citations from a paper read by Crile at the last meeting of the American Medical Association.

One in eight women who reach the age of 35 years die of cancer.

Eighty thousand cases of cancer could be counted in the United States at this moment.

About one in thirty of benign growths of the uterus become sarcomatous, and one in fifty carcinomatous. These figures correspond nearly with those of Winter.

Cancer is slightly, it at all, communicable. It is not proven to be increasing nor hereditary. It is rarely transplantable.

A reliable blood test for cancer can probably be established. The blood serum from a cancer patient is hemolytic to healthy red blood cells. The blood of a cancer patient is more resistant.

The immunity principle, through transfusion of blood, can possibly be utilized for the cure of cancer. Eleven dogs, the subjects of transplantable sarcoma, some of them being cachectic and having metastases, were bled to the limit and were then overtransfused from immune dogs. Nine were cured. The cured animals in turn became immune.

Normal blood was transferred into six human subjects from whom sarcomatous tumors had just been removed. These patients showed no recurrence sixteen months after the first treated.

Anemia and cachexia in cancer patients result from the action of hemolytic substances.



# LONG ISLAND MEDICAL JOURNAL

A Forum for the Discussion of all Topics involving the Medical Profession and especially that of Long Island.

EDITOR-IN-CHIEF

PAUL MONROE PILCHER, A.M., M.D.

ASSOCIATE EDITOR

JAMES MCFARLANE WINFIELD, M.D.

EDITORIAL OFFICE :

386 GRAND AVENUE, BROOKLYN, N. Y.

Further Information on advertising page 3

APRIL, 1909.

## MEDICAL LEGISLATION.

AMERICAN medicine can boast no more important achievement than what has been done in recent years for higher standards of medical education and admission to practice. And this has been done with purely unselfish purpose, with a view solely to the public good. The people know little what it has cost in time and effort, nor, it would seem, do they realize its full significance in its relation to the public welfare.

Foremost among the pioneers in this movement has been the Empire State. On this, as on all other medical questions affecting the interests of the people, the profession of New York has stood in the forefront of progress. And it has been the ambition of the great body of physicians of this commonwealth to place its educational standards in medicine on a par with those of the best European universities.

Nothing, surely, should commend itself more to our state administration than the importance of furthering these aims of the medical profession. What is more essential to the interests of a community than the

character and professional attainments of its physicians, to whose care are entrusted the health and the lives of its citizens? No more serious duty could devolve upon our lawmakers than sedulously to guard the entrance to the practice of medicine.

We must look upon it as unfortunate, therefore, that the state should have opened the gateway to any department of medical practice by persons with lesser requirements than are exacted of those holding the diplomas of medical schools. Such legislation is a backward step. It is a serious blow to the dignity of medicine and in violation of public policy. It is humiliating. The leading state of the union should have set a better example for its sister states. C. J.

## IS COMPULSORY VACCINATION JUSTIFIABLE?

AGAIN we are in receipt of a circular addressed to "The People of Brooklyn," asking the question: "Is compulsory vaccination justifiable?" It hardly seems possible that in this enlightened age any sane body of men could be gotten together to discuss this subject in earnest. It seems to us simply an expression of ignorance and not to be taken seriously by those who understand the real merits of vaccination. Yet a public meeting was held so recently as on Thursday evening, March 25th, at Memorial Hall, under the direction of the Anti-Vaccination League of America, at which the attempt was made to show the unreliability of vaccination as a preventative against small-pox, and also its great dangers to the health and life of school children.

In a recent number of the LONG ISLAND MEDICAL JOURNAL, we published a photograph of three children,



members of the same family, of whom one had been vaccinated and the other two had not; the two who had not been vaccinated were attacked with the small-pox and were marked for life with the terrible scars that resulted from the disease; the third child was more fortunate and had been vacci-

the subject of vaccination, is absolutely free from the disease.

As a further contribution, we publish a second photograph of two babies lying side by side—the story is told without words; the one has been vaccinated, and the other has not.

The public meeting of this noble so-



nated. If there be any doubt that vaccination, when properly done, is a preventative against small-pox, these Anti-Vaccination Leaguers need but look at this photograph and their question is answered. The two children attacked by the disease are in its most dangerous stage, while the third child,

ciety was held to make a special protest against the alleged medical and legal barbarism which makes any medical remedy or operation compulsory on the patient by law. The chief speaker of the evening was Mr. John H. Bonner, of England, who professes to have made a



profound study of the subject in his home country; he classified the disease as "the one infrequent disease that actually lowers the general death-rate in every epidemic," but exactly what is meant by this does not appear on the surface. Mr. Bonner does not appreciate the fact that it is owing to the repeated vaccinations in the direct ancestors of these various inhabitants of his home town which accounts for the lowered small-pox death-rate. If any of the members of this society could read without bias the accounts of the ravages of small-pox in the Philippine Islands, which within a period of five years has been practically stamped out by vaccination, we believe that no other argument would be necessary to open his eyes to the truth that vaccination has robbed small-pox of all its terrors.

As yet we have seen no mention of an Anti-Mosquito-killing League, but as soon as it had been discovered that mosquitoes were responsible for carrying the contagion of the yellow fever, and a concentrated effort had been made to eradicate this source of danger, it was to be expected that some league would be formed to oppose the theory! May the day soon come when we must no longer fight against the malcontents who will never accept the basic truths that have been established beyond question! They are to be classed with the newly-landed emigrant whose first expression was: "I don't care what the government is, I'm against it!"

#### A PLEA FOR THE DOCTORS.

**L**AST month the following communication was received by the Editor, showing the viewpoint of one of the laity in the question of night calls:

"The patient who does not discover that he is ill enough to require a doctor's services until nearly midnight, although he has been suffering all day, is one of the greatest annoyances of a physician's life. Almost every other profession or business has hours at which work ceases—not so with the doctor's art. The medical man must be at all hours at the beck and call of all these others who would be quick enough to remind him if their services were required, that it was 'after hours.' Let the plumbing in a doctor's house get out of gear and see how hard it will be for him to have the work of repair done after hours or on a holiday, but he would be expected to call at midnight if the plumber's baby grew restive and the plumber's wife said to her husband:

'Telephone for the doctor to come at once, John. I think we'll sleep better if he has a look at baby and tells us she's all right.'

There was once a Long Island physician who was called by telephone at midnight to a patient several miles away. The night was stormy and when the doctor found the patient, the eldest son of the house suffering from a headache only, he didn't feel very amiable. He prescribed, however and was going away when the patient's mother said:

'Now that you've seen him doctor, I think I'll wait until morning to get this prescription filled out. It's very stormy, and anyway, my husband doesn't like to take the horses out at night.'

'Madam, you send your husband at once to the village for that medicine or I won't be answerable for the consequences.'

'I made up my mind,' said the doctor afterward, 'that I wasn't going to



be the only one to be inconvenienced by that boy's headache.'

Of course all late calls are not of this kind but any doctor will aver that a large proportion of them are calls that should have been sent in early in the day but were delayed because the family thought maybe they could do without a doctor, but when night came decided that a medical opinion of the patient would ease the family mind and promote rest.

A correspondent writer suggests a plan to remedy this evil in the large cities. He says: 'Could not seven neighborhood physicians band together and assign to each, one night in the week on which to attend to all

new calls received by the seven for visit after evening office hours? Cases could be turned over to the 'owner' as it were, the next day. Patients would soon get used to this plan and it would insure to each physician in the 'club,' six nights in the week clear of new calls. Where night visits were required in cases already in the hands of any doctor, he would of course make them himself. It must be distinctly understood that the above plan relates solely to new cases coming in after evening office hours.' It is to be hoped that a group of seven may somewhere be found to pioneer the new plan.

(Signed) MISS A. MAXWELL,  
781 Marcy Ave., Brooklyn.

## MEDICAL NEWS.

**Another Tuberculosis Clinic Established**—The second Tuberculosis Clinic established in the Borough of Brooklyn was opened for inspection on Monday evening, March 8th, at the Bay Ridge Hospital and Dispensary, Sixtieth Street and Second Avenue. Although it is the second clinic in Brooklyn, the Department of Health maintaining a similar clinic downtown, it is the first clinic of its kind in the Borough opened by private means.

The clinic is thoroughly up to date and has been fitted up in every particular by the New Utrecht Red Cross Society in conjunction with the Ladies' Auxiliary attached to the hospital. The officers of these two societies held a reception during inspection, to which the public was invited. Dr. S. Adolphus Knopf, of Manhattan, was the guest of the evening.

Dr. Frank E. Stoney, Dr. Robert E. Coughlin and Dr. Rollin Hills will compose the visiting staff to the clinic.

**Association of American Medical Colleges**—The Annual Meeting of this Association was held March 15th,

and 16th, in New York City. The papers read on the evening of March 15th were by Dr. John A. Wyeth, on "The Medical Student in 1867"; a paper by Dr. Eli H. Long, on "The Functions of the Medical School"; a paper by Dr. Henry H. Pritchett on "The Standards of Medical Education."

**The Bull Memorial**—There are plans on foot to raise a fund of \$500,000 to build a memorial to Dr. Bull in New York City. One idea has been to establish a research laboratory to be built in connection with Columbia University. Dr. Louis N. Lanehart, of Hempstead, has been appointed on this committee.

**Yale-Taft Dinner**—Among those present at this dinner in honor of President Taft, held February 19th, were the following members of the Associated Physicians of Long Island: Drs. Browning, Bristow, Catlin, Lee, Marshall, Pratt and Webster.

**Milk Stations**—The New York Milk Commission is already busy



raising sufficient funds for the establishment of milk stations for the coming season. Mr. Straus, who has done so much for this work, feels that it is now more than he can carry, as it has assumed such great proportions, and he hopes to see others take it up.

**"Eye Specialists"**—Taking advantage of the recently passed new optometry bill, the opticians have in many instances displayed signs claiming for themselves the title of "eye specialist," "eyesight specialist" and "optical expert"; some have even assumed the title "doctor." The Optometrical Society of the State of New York has adopted measures to check this practice.

**Williamsburgh Hospital**—The recent report of the Williamsburgh Hospital shows its condition to be prosperous, although the Hospital has keenly felt the general business and financial depression of the year. The total number of cases treated in the Hospital during 1908 was 1,296; the ambulance calls for the year amounted to 1,585; and the emergency treatments in the accident room were 1,030, which shows the relatively large amount of accident work that is done. The rules and regulations of the Hospital that have been recently adopted will, if carried out, greatly aid in systematizing the work and in increasing the value of the clinical material. Those who are interested in hospital management will find some new ideas expressed in this manual.

**Report of Legislative Committee**—Twenty-three and more bills affecting the medical profession are now pending in the legislature. Among the more important of these are two anti-vivisection bills, a bill extending the time of exemption from examinations in optometry to July, 1909, two bills for the establishment of tuberculosis hospitals, one for the enlargement of the Otisville sanatorium, and a bill repealing several sections of the Public Health Law relating to adulteration of food and drugs. A summary of measures interesting physicians has been posted on the bulletin board at the society building. Further information may be had on application to any member of the committee. Full copies of bills may be obtained from senators or assemblymen.

The committee call attention to the need of more active personal interest on the part of physicians in medical legislation. At small cost of time any member of the society may keep in touch with legislative questions which concern the interests of the profession. An appeal to the representatives from his own district in senate and assembly may do much for better legislation. Our law makers, often ill-informed of the merits of medical measures brought before them, are very ready to listen to the views of doctors among their constituents, and many of them have so expressed themselves. Are we all doing our duty in this matter?

CHARLES JEWETT, *Chairman*.

March 16, 1909.



# TRANSACTIONS

## OF THE

### BROOKLYN PATHOLOGICAL SOCIETY

Edited by C. G. CRANE, M.D.

*Stated Meeting, December 10, 1908.*

The President, JOHN O. POLAK, M.D., in the Chair.

#### RUPTURED UTERUS.

A case operated on by DR. A. BONNER was reported to the Society.

DR. RALPH M. BEACH said the important point was as to what should be the immediate treatment of this woman. When seen by the speaker she was bleeding profusely, pulse 136, condition not good. Examination showed a fetus which could be palpated to the left and the uterus to the right. The cord protruded from the vulva, and the placenta, which had been found outside the vulva, had been removed. The trunk of the fetus was partially in the peritoneal cavity, the feet up to the buttocks were in the rent.

It seemed to the speaker that with a woman bleeding profusely, in general poor condition and with the feet where they could be easily grasped, the indication was to extract the body, which he did, making an easy extraction. The woman went into profound shock after this extraction, and it was a question whether she could have stood an immediate laparotomy. Practically all authors agree if the fetus is entirely in the peritoneal cavity, immediate laparotomy is the treatment. If entirely in the uterus, extraction per vaginam, either by craniotomy or breech extraction. Where part of the body is in the abdomen and part in the vagina, it is a question what should be done. Olshausen and Edgar agree that in this case if the fetus is easily reached per vaginam, it should be extracted by craniotomy when the head is on the vaginal side of the rent, or by breech extraction when the feet are within easy reach.

In reply to a question the speaker stated that as far as he could make out from the history of the case there had been no attempt at version. The attending physician saw her and made an examination, and coming back some hours later found the condition described. She was then sent to the hospital.

#### THE BACTERIOLOGICAL DIAGNOSIS OF DIPHTHERIA.

A paper with the above title was read by DR. J. EDDY BLAKE (for which see page 135). Dr. Blake gave a résumé of nine cases, in seven of which the Laboratory report was incorrect. He made a plea for improved technic.

#### *Discussion.*

DR. RAYMOND CLARK thought that Dr. Blake was unfortunate in his experiences, and more so in that he was asking the Health Department to make a diagnosis of diphtheria when the cultures themselves, which had been turned over to the Department for incubation, etc., showed no Kleb-Loefer. In one instance the smear made from one of the culture tubes taken by the Doctor, examined by the Health Department, and later by Dr. Blake, was found negative by both. It seems to me that the Doctor takes a wrong view of the bacteriological examinations. A negative report should not influence him much in his diagnosis if, clinically, the case is one of diphtheria; for we all know how easy it is to get a negative result from varied causes. It has been my experience that more trouble comes when we get a positive laboratory diagnosis of diphtheria, when clini-



cally the case is not and does not run the course, and yet we are obliged to quarantine in many cases for a long period. We may have *Kleb-Loefer* bacilli in a throat as the laboratory states, and yet the patient may be suffering from another infection, or, in fact, have no infection. It was only three or four years ago that I conducted a series of experiments along this line myself. I took a number of cultures from the same diphtheric throat and incubated all alike, but oftentimes I would find as many as one or two that would not show diphtheria bacilli out of six to eight cultures taken. This did not occur in every instance, but often enough to convince me that this was a possible chance of error. I believe the paper illustrates again that with a negative bacteriological report one should hold to his clinical diagnosis. I am surprised that Dr. Blake did not deal with the positive laboratory reports of diphtheria which, to the clinician, are not diphtheria.

DR. THURSTON H. DEXTER considered Dr. Blake's conclusions as to the method for obviating these apparent discrepancies were good. It would seem that the remedy offered would exclude many of the errors. That there are some errors there was no question, but there were not as many as the Department is credited—or discredited—with. Many general practitioners expect the laboratory report always to confirm the clinical diagnosis, and do not realize the large number of cases in which, for various reasons, it does not and cannot. He thought there was some unconscious bias in the doctor's conclusions in reference to his cases. He referred to reports of examinations, in which secondary cultures were requested by the Department, as "negative reports." The speaker's understanding was that they were not negative reports but ones in which the findings were designated as doubtful or suspicious; and, in some of these same cases, the writer of the paper cites his own primary examination of his control cultures as being doubtful or suspicious—as

finding a few bacilli, which might be the diphtheria bacilli, but which were not characteristic enough to make the diagnosis. That, probably, was what happened in the Health Department.

The speaker knew many criticisms were unfair. Recently a case in a hospital was quarantined where clinically it was not diphtheria, and some felt perhaps it might be spite work on the part of the Department. He was asked to look over a culture preparation and he found diphtheria bacilli and nothing else. In another hospital, the clinical diagnosis of diphtheria was made and confirmed in the laboratory of that hospital. The Department Diagnostician saw the case and said he did not think it was diphtheria. He took a swab and the report came back negative. The House Pathologist sent the Department another culture and kept a control and both were positive.

The speaker thought it would add to the efficiency of the Department if the man who made the examination had to sign his name to the report that went out; and if the men in the Health Department doing this technical work received a salary commensurate with the character of the service required.

DR. HUBBARD, speaking on behalf of the Health Department Laboratory, stated first he would like to take up the few cases cited by Dr. Blake. It would perhaps be noted, he said, that every one of the doctor's cases, with the exception of one, was an adult, which is rather unusual. Diphtheria in adults is rather uncommon, and it is quite strange that he should have had so many cases in so recent a period in adults. It is also true when diphtheria occurs in adults it is almost always a mixed infection, more so than in children, and where you have a mixed infection present, particularly the *staphylococcus*, the overgrowth is very much greater, and, in those cases of severe malignant, and particular streptococcic infections, very often you do not find L. P. at all.

As to one or two statements: he had some experience in the laboratory, both as an examiner, and also in di-



recting the work of the laboratory under Dr. Billings, and he would like to say with great positiveness, that not one single report goes out from that laboratory without an examination of the culture smear. That is absolutely a fact. In the next place he would say that in the report of the examination, the examiners are not influenced by the clinical diagnosis made by the physician upon the slip which is sent in with the tube. The bacteriologist simply reports what he finds, and the report goes out in this way. The only attention which is paid to the slip is this: if no diagnosis has been made, or if the clinical diagnosis by the physician is tonsillitis or is doubtful, and no bacilli are found in the examination of the specimen the report states that in the examination of the culture from the throat of John Doe of blank address no diphtheria bacilli are present. If the physician has made a diagnosis of diphtheria clinically, the report says the result of the examination of the smear made from the throat of John Doe "does not show the presence of diphtheria bacilli." Then at the bottom of the report will be found a note, and that note states "that in a certain proportion of cases the bacilli of diphtheria are not found on first examination. If you consider this a case clinically, send in another culture." That is left entirely to the physician. If it is a laryngeal case, a note "3" is marked stating that frequently in laryngeal cases the bacilli are not found, and if the physician considers it a case, another culture is requested. If suspicious bacilli are found the report states that there are organisms present which have the appearance of diphtheria bacilli, and the physician may send in another culture for further examination. There is no compulsion; the request is for the benefit of the physician.

Frequently the tube may be dried or contaminated. If so found, that fact is stated, and the request for another culture made on that ground.

Unfortunately, the speaker said, the diagnosis of the diphtheria bacilli depends upon their morphological ap-

pearance, as there is no specific staining process as for the tubercle bacilli. Necessarily the accuracy of diagnosis depends largely upon the personal element.

The speaker stated that in the laboratory sometimes 2,000 cultures a week are examined—about 300 cases a day. The great cry of the physician has always been to get their diagnosis as soon as possible. In order to get that the endeavor of the Department has been to make the examinations so that the reports may get to the physicians by eleven in the morning; therefore, the examiners can not spend a great deal of time on each smear. They must be trained to see quickly, accurately and according to their best judgment. Every smear is examined by two examiners, and the combined opinion of the two is the one which goes out in the report.

The Brooklyn cases are examined first, and the reports are telephoned immediately to the Brooklyn Office, and these are telephoned to the physician at once, if their telephone number has been put on the slip, so that Brooklyn stands on an equality with the other boroughs in the rapidity with which they get reports.

As to the doctor's suggestion of a double culture tube being kept; if one thought for a moment of the work which the laboratory has to do, one could see it would be almost impossible. Of course, there are questions of ideal work and questions of practical work, and in the Health Department the work must be practical, and it cannot, therefore, always be ideal. The very best is done for the greatest number, and that must be taken into consideration.

The speaker said he would state in answer to another objection perhaps indicating inaccuracy, viz., the small proportion of positive cases that in his experience in a number of years examining these cases, a majority of the cases were sent in with the diagnosis of something else than diphtheria, that they were not considered diphtheria by the physician when he sent them in, and in a majority of cases they were not and were so re-



ported. He thought that the habit has been in all cases of sore throat or follicular tonsillitis to send in a culture, even though the clinical symptoms were those of simple sore throat, and in some instances the physicians have been surprised to find that K. L. were present. It is perfectly possible to have bacilli present in the throat when there is no true diphtheria. It is possible to have tonsillitis and bacilli present. It is possible to have bacilli in healthy throats.

If the physicians of this city, Dr. Hubbard said, when they find what they suppose is an error will go to headquarters and state their case, he thought in every instance they would be treated courteously, and if any explanation could be given, it would be given, and it would be much better and more satisfactory to the physicians than to go about and make complaints and talk about these things, rolling them under their tongues and getting up a panic in regard to the work of the Department.

The speaker knew perfectly well in many instances a hardship was brought on family and patients by the finding of diphtheria bacilli in throats which were not strictly and clinically diphtheria, and keeping up quarantine. That was undoubtedly true, but in the work of the Department a rule must be made which is general. You can not make exceptions. All present were probably personally acquainted with a great many physicians in the city on whose opinion they would not place very much dependence, and they must consider that there was a large percentage of practitioners who were not as trained and capable as they are. The Department has got to take this into consideration and has to make a general rule, and the rule is when K. L. is present, that case must be considered from an infective standpoint a case of diphtheria and must be quarantined, because if these organisms are present and there is any inflammatory condition, these people are perfectly capable of producing true and malignant diphtheria in perfectly healthy people.

With all the work that is being done,

diphtheria is still very prevalent, and it is because there are so many unsuspected cases, so many cases of healthy people with diphtheria bacilli in their throats, who are constantly spreading the disease, but where it is found, it is the duty of the Health Department to control it as far as possible. When the germs persist for a long time and the patient is clinically well, the Department is willing to take these organisms and inject them into animals, and if they do not prove virulent, the case will be discharged from quarantine even though the organisms are present in the throat.

DR. J. EDDY BLAKE said that these cases, with one exception, were all in the practice of his father, who has had comparatively little of children's practice during the last few years. His father's work had been more among adults, and five out of these ten cases were a series of cases in one family.

He thought Doctor Hubbard had admitted exactly the point he wished to bring out, namely, that in the class of cases, of adults with mixed infections, the Department usually fails to find the bacilli; and, therefore, it is incumbent upon us to recognize that fact and prepare our patients accordingly. Patients, as a general rule, regard the Health Department as an arbiter. They know a culture has been sent in and a report received; and if the report comes back negative, they cannot understand how the case can be diphtheria. They do not place any value on the remarks on the bottom of the slip.

He was glad the doctor made the admission, that the cases of diphtheria are not being controlled by the present methods. At the last reports there were 1,117 more cases and 56 more deaths in the first quarter of this year than in the same period last year. Personally, he would be led to suspect that it is not the healthy adults, who walk around with bacilli in the throat, who are mainly responsible for the spread of the disease, but that the danger lies in the unrecognized cases amongst the two-thirds reported negative.



# TRANSACTIONS OF THE BROOKLYN GYNECOLOGICAL SOCIETY

*Stated Meeting, January 8, 1909.*

The President, H. C. KEENAN, in the Chair.

## **CARCINOMA OF FUNDUS UTERI.**

DR. V. L. ZIMMERMAN stated that he did not know whether or not Dr. Byrne ever claimed to have originated the palliative method of curetting and cauterizing for incurable cancer. But he wished to enter his protest against this treatment being called Byrne's Operation.

Byrne's Operation is a high amputation of the cervix by galvanocautery, and is a distinctly curative operation for incipient cancer in that region. The technique is well described by Werder in Kelly's late book.

One of the last operations performed by Dr. Byrne was done in the Memorial Hospital in Manhattan. On the way there he remarked that the disease would probably be found to be too far advanced for his method, as were most cases referred to him. But it proved otherwise and he removed nearly all the uterus with the cervix by cautery. That was about seven years ago, and the patient still reports well. Ten years ago a patient of Dr. Jewett came to St. Mary's with a report from Dr. Van Cott that she was suffering from adeno-carcinoma of the cervix. Dr. Byrne operated by cautery, and the woman has no return to date.

## **DEGENERATING MYOMA OF FUNDUS UTERI.**

DR. J. O. POLAK said that at the last meeting he presented this specimen. At that time the diagnosis of the gross specimen was questioned. The pathological report was that it was a degenerating myoma. She made an uninterrupted recovery until the seventeenth day. On the fourteenth day she was let out of bed. On the seven-

teenth day she went to the toilet, and she died of embolism in the toilet before any aid could reach her. He called attention to this because the tumor was a small myoma, and this was the third death he had from embolism in fibroids, and one death occurred in a patient having a large fibroid which was not operated on. These reports, he said, seem to point to the fact that the blood vessels undergo a certain degree of degeneration in association with fibroids.

## *Discussion of Uterine Cancer.*

## **LYMPH NODES IN UTERINE CANCER.**

DR. G. McNAUGHTON said that in most cases of cancer of the uterus where it is necessary to do a hysterectomy there is no apparent enlargement of the glands. The reason given is that the large cancer cells present in these growths are too large to become engaged in the lymphatic vessels.

He recalled a case operated on three years ago. The disease had advanced further than in any other uterus he had removed. In this case the glands in the broad ligament were so large that they were scooped out with the hands. No examination was made of the glandular tissue, but he supposed it was a cancerous involvement of these glands. He saw the patient every two or three months. Last week he found a return of the trouble distinct and beyond relief. The lymphatics are recognized as becoming infected in breast cancer, but it is a peculiarity of uterine cancer that the glands are rarely involved. They may be enlarged, but they do not contain cancer cells, which he thought favorable to the subsequent results in these operations.



*Abstract of Discussion.*

DR. W. B. CHASE felt in the present status of this subject that more attention should be directed to the palliative treatment of this disease, and he thought the Byrne treatment has a field of usefulness which cannot be covered by another known method of procedure. He believed with this operation we could accomplish results with inoperable cases which cannot be accomplished in any other way.

Nine years ago he operated on two patients at the Skene Sanitarium; both cases of cancer of the uterus. The first was 35 years old, and there was considerable destruction of the cervix; there was cachexia, pain and offensive discharge, and a modified Byrne operation was done with the expectation and belief it would only be palliative. Two or three years ago the woman had no return of the disease.

Another was a woman 40 years of age, who had had many miscarriages, and who developed a very extensive cauliflower growth which nearly filled the vagina, and in which a modified Byrne operation, in which he had no expectation of accomplishing more than to palliate the disease. Fortunately the field of operation healed within six weeks, except a point about as large as his thumb. By local treatment there was no sign of further healing, and he then did an abdominal hysterectomy. She went on for a year without trouble, when at the point of the vaginal scar following the hysterectomy there was a nodule as big as a small cherry. He removed it three months ago, and there was no return of the disease.

The third case he saw two years ago in which there was well marked evidence of the cancer of the cervix, but there had been little breaking down of tissue. His advice was that the Byrne operation be performed. Some gynecologists in New York and Brooklyn pronounced the case inoperable. Another surgeon used the cautery, after the Byrne method, and there has been no return after two years. All these cases would have perished had no attempt at palliation

been attempted. I appeal to the Fellows of the Brooklyn Gynecological Society, and to the Medical Profession at large, not to ignore the cases which have passed the stages where hysterectomy is justifiable.

DR. J. O. POLAK said that Dr. Baldwin in speaking of bisection of the uterus qualified his remarks by saying it was necessary in doing bisection for cancer that the part of the bisected uterus not being handled, should not be allowed to slip back into the abdominal cavity. He could see no advantage in the bisection, unless one-half of the uterus was allowed to slip back into the abdominal cavity for no room was gained by the procedure, but he could see the disadvantage of bisection in the possibility of further infection when dealing with cancer.

DR. R. L. DICKINSON said when the subject of cancer and its treatment is mentioned the gynecologist outside of Brooklyn thinks at once of Byrne and the great work he did, and the results he got certainly have never been matched anywhere. Of course, the partial destruction of the cervix by the cautery made subsequent microscopic examination and substantiation of results difficult, and it is hard to say whether they were very bad cervixes not malignant, or whether they were actually malignant. However, there can be no doubt that his wonderful skill and results should be followed up. At the Brooklyn Hospital they had tried to do something of that kind, but there was one great difficulty. Byrne took such pains with working with his battery that he could control the heat in his cautery knife enough to do beautiful work, but with electric outfits quick heating of the thick platinum is difficult. It is tedious work, at best, because, as he insisted, one must give a deep dry roast to the tissues, otherwise the vessels are not closed off.

Personally, the speaker believed there is a wide field for vaginal hysterectomy in this way, provided a sufficient part of the upper vagina be removed with the cautery, and that the



lower work be done with the cautery, going through the broad ligaments, and then ligatures be thrown about the ovarian blood supply. In that way we have the advantages of the Byrne cautery, using a knife instead of the clumsy Paquelin, and the advantages of a hysterectomy instead of leaving the shell that Byrne preferred to leave. Such is the speaker's preference. He had a very small number of cases to report, and did not have time to look up his records, but knew of two such cases that have passed a two-year limit.

The tendency of many of us, he said, is to restrict our late-cancer surgery. The man who sees a large number of recurrences after malignant disease will get very hopeless of operating in bad cases, and that is the sad end of all our discussion on these matters. The extensive abdominal extirpation seemed to him never to have been justified at all.

DR. O. P. HUMPHSTONE said that the complication of pregnancy with carcinoma of the uterus is always of the gravest import. The effect of the pregnancy upon the carcinoma is generally to aggravate the disease. Carcinoma is a well recognized cause of prolonged pregnancy, and of still birth. Further, it is a cause of maternal dystocia. The treatment of the combined conditions is now at a standardized position. If the carcinoma is operable and the child is not viable, total hysterectomy is the treatment. Therapeutic abortion should never be done. If the carcinoma is inoperable and the child not viable, the case should be palliated until viability arrives. If the carcinoma is inoperable and the child viable, labor should be encouraged. If the carcinoma is soft and dilatable, the case may be allowed to proceed in normal labor. If labor shows the stenosis to be too rigid, dilation may be hurried by mechanical means or vaginal Cesarean section, completing the delivery by the use of forceps or version. If the carcinoma has so involved the vaginal wall that delivery from below is impossible, the classical

Cesarean operation should be performed, as positive indication.

DR. L. G. BALDWIN answering Dr. Polak's question in regard to bisection of the uterus said if the disease involved the cervix, of course, it should be cut away as the section progresses. Of course, it should not be pushed back under ordinary circumstances, but the bisecting of the uterus and protecting with gauze renders it, in his judgment, perfectly safe, as far as the danger of infecting surrounding parts is concerned. He thought that purely theoretical, particularly in the light of Crile's remarks. Bisecting gives more room and renders the tying of the upper part of the broad ligament a great deal easier.

In the matter of morcellation no one would suggest that where it is possible to do otherwise. He stated that morcellation was mentioned by Pean and mentioned that was in benign cases.

The speaker said that we are very apt, as Dr. Dickinson did, to by inference criticize some of Byrne's results, that they were not examined with the microscope. He felt it is only fair to say and thought all had experience in criticizing the diagnosis made by the microscope. In many cases he had instances where the microscope was wrong. He believed that the clinical picture and findings were more positive than the diagnosis by the microscope. In other words, he would not remove a uterus that did not bear the clinical picture of malignant disease. Some of the most unfortunate cases he had ever had had been those which the microscope said had not been malignant, and he had depended on it and the case had gone on to inoperability and had died of cancer. In other cases where the microscope said the case was malignant and the patient refused operation, they had lived ten to fifteen years afterward and are perfectly well. So when we speak of cases reported as not confirmed by the microscope, we should not forget that the microscope often fails us.



# TRANSACTIONS OF THE BROOKLYN SURGICAL SOCIETY

*Regular Meeting, December 3, 1908.*

The President, C. H. GOODRICH, M.D., in the Chair.

## COMPOUND DEPRESSED FRACTURE OF THE SKULL.

DR. F. E. BROWN, presenting a boy eight years old, said that a year ago last September he fell forty feet, striking upon a stone pavement. The chief force of the blow was exerted on the left side of the forehead and the outstretched hands. He was brought to the hospital unconscious and examination revealed a large hæmatoma of both eyes, a large scalp wound over the left orbit leading down to a depressed fracture of the vault, the left wrist presented a simple Colles fracture; the right wrist showed a rather complicated condition. There had been a fracture, apparently, through the epiphyseal line, and the chief force of the blow evidently had been exerted on the right hand. The hand was dislocated upon the forearm one and a half inches back from the wrist-joint and the lower end of upper fragment protruded through the skin of the palm. The boy was in profound shock, and the head was prepared with the idea of straightening out the depression. He began to develop twitchings in the left leg and arm, these rapidly became general and he was hurried to the operating room. Without anesthesia a trephine opening was made on the right side over the motor area, a large subdural clot being exposed. On opening the membranes the twitching ceased and the patient became partially conscious. The clot apparently was due to bleeding along the base, and when evacuated there was still some bleeding that seemed to warrant the introduction of a small tissue drain through the membranes.

The anterior wound was investigated, cleaned up and the depression lifted, the brain found intact. His

condition still was poor, and nothing further seemed justifiable in regard to the fractures, beyond preparation of the right arm, and he was brought back to the ward. For the next two days his condition was alternately unconsciousness, restlessness and delirium. At the end of 48 hours he became conscious, and it was found at that time that apparently he was blind—a match was held in front of his eyes, and he said he saw no light. The drainage from the trephine wound was quite profuse for 36 hours, at the end of the second day the drain was removed. His condition gradually improved, so that on the fifth day a definite attempt was made to correct the deformity of his hand. Under chloroform reduction was tried but was unsuccessful, the soft parts intervening. Before this it was found that the ulnar, radial and median nerves were partly paralyzed, both sensory and motor. Incisions were made on either side of the wrist, the ulnar and radial nerves were exposed, these were found lacerated, but still whole in their continuity. The extensor muscles of the thumb had become interposed between the fragments, were replaced and the fracture reduced. It was found the only way to hold the fragments in place was by extreme flexion of the hand at the wrist and abduction. The hand was put up in this position in plaster, two small drains having been introduced into the neighborhood of the fracture.

Following this the history was uneventful. The wounds of the hand healed by primary union. Passive motion and massage was begun at the end of a week and the plaster left off at three weeks. The anterior wound of scalp had become partly infected—this clearing up in about



two weeks and secondary sutures were applied. The blindness gradually disappeared. On the fifth day he could distinguish light from darkness. At the present time his right eye is good, and in his left eye there is probably  $\frac{3}{4}$ -vision. He was discharged from the hospital at the end of three weeks and went to school two months later. The paralysis of the nerves cleared up in the ensuing three months. He has a slight lack of pronation in the right forearm, otherwise he is well.

#### INTRACRANIAL HEMORRHAGE.

DR. F. E. BROWN said that a child of two years, several days before admission to the hospital, according to the mother's story, was troubled with a fever, vomiting and green stools. Before admission he was playing on the stairs, and falling he was picked up, unconscious, two steps below. He was carried to the hospital, and when examined he went into a slight general convulsion. There were no marks of external violence upon him. His pupillary reaction was normal; temperature,  $102^{\circ}$ . He was given a hot mustard bath, bowel irrigation and treatment for the supposed cause of his convulsion—the intestinal disturbance. Within the next six hours the temperature dropped, and it was thought everything was all right. At that time he began to twitch, and had a slight general convulsion.

A lumbar puncture was made and a large amount of blood-stained fluid was obtained. Following the puncture he went into another convulsion, the convulsive movements being restricted to the right side. He was brought to the operating room, and trephine opening showed a moderate hemorrhage from one of the branches of the middle meningeal. He died in the course of six to eight hours, although there were no convulsive movement following the operation.

#### EPITHELIOMA OF THE TONGUE.

DR. T. B. SPENCE said the patient, a man 49 years old, came to him in October, 1905, complaining of pain in the right side of his tongue and face

and an ulcer on the right side of his tongue, both of which conditions had been present for ten or eleven weeks. The pain gradually increased in severity and extent. The ulcer did not change much in appearance.

Examination showed an ulcer with an indurated base half an inch in diameter situated on the right border of the tongue about two inches back from the tip. This had the appearance of an epithelioma. There was no apparent lymphatic involvement in the neck.

On October 5, 1905, an operation was done for the removal of this growth. The right lingual artery was ligated and a careful search through the incision failed to reveal any enlarged lymph nodes. A ligature was passed around the left half of the tongue for the temporary control of hemorrhage and the right half of the tongue was removed through the mouth after the method of Whitehead. Hemorrhage was easily controlled.

The packing was removed on the first day after operation and the wound was thereafter painted with iodoform varnish after frequent irrigations of the mouth. The patient was allowed up on the second day, fluid diet was begun on the third day and farinaceous food given on the tenth day. Healing was rapid and the patient was discharged from the hospital on the twelfth day.

On May 2, 1906, seven months later, the patient returned to him with painful, tender and enlarged glands of the neck on the right side. This condition had begun suddenly ten days before his examination. A complete removal of the right cervical lymphatics was done and the patient was discharged cured on the tenth day. He has since gained twenty pounds in weight and is perfectly well now, three years after the removal of the right half of his tongue.

Microscopical examination showed the primary growth to be epithelioma. The specimen from the second operation was unfortunately lost and diagnosis is, therefore, somewhat in doubt, but the mode of onset and the char-



acter of the enlarged nodes were not at all typical of a malignant condition.

#### CHOLECYST-ENTEROSTOMY.

DR. T. B. SPENCE reported the case of a man, 57 years of age, admitted to the hospital with a history of having had typhoid fever four years previously, and ill health ever since. He frequently suffered from abdominal cramps, had had an attack of jaundice one year ago and for the past three weeks had complained of severe pain in the right side of the abdomen and chest. He was deeply jaundiced, his stools were clay colored, and he was running a fever.

On November 6, 1906, he was subjected to operation by Dr. Delatour and a large number of small stones were removed from the gall bladder. Owing to the patient's poor condition no attempt was made to remove some stones found in the common duct. The patient's recovery was slow, but his temperature reached normal after a month and his wound healed except for a sinus, which discharged bile profusely.

Because of Dr. Delatour's illness at this time the patient fell under his care, and on January 8, 1907, he removed some gall stones from the common and hepatic ducts through an incision in the common duct. This incision was closed and a drainage tube put into the gall bladder. The general condition seemed to be somewhat improved by this operation, but a fistula remained discharging large quantities of bile.

The patient finally began to lose strength and he consented to a third operation, which was undertaken on February 26, 1907. The duodenum was incised and an unsuccessful attempt was made to find the opening of the ampulla of Vater. The only solution to the problem then was a cholecysenterostomy, which was performed after dissecting the gall bladder loose for one-half its length. A Connell through and through suture was used and a Lembert in addition to it. A gauze drain was passed down to the anastomosis. On the sixth day

there was a profuse bile stained discharge from the wound, and on the tenth day everything administered by mouth came out through the drain sinus. The sinus was then packed very firmly with zinc oxide gauze, and nothing more was given by mouth until the twelfth day, when a little dry toast was allowed. The discharge rapidly decreased after the firm packing was begun and in a week's time it had practically ceased. On the 21st day after the operation the patient was allowed up in bed, and on the 32d day he was discharged from the hospital feeling much stronger, gaining in weight and rapidly recovering from the jaundice.

During the next five months he suffered from frequent attacks of chills and jaundice, but he had very little pain or fever. It seems probable that the chills and jaundice were symptoms of an infection traveling up through the anastomosis into the gall ducts. Since September, 1907, there have been no more of these attacks and a condition of perfect health has ensued.

#### INTESTINAL OBSTRUCTION TREATED BY INTESTINAL IRRIGATION.

DR. W. LINDER said this patient, 37 years of age, was taken sick on Friday and on Sunday showed symptoms of acute intestinal obstruction. The abdomen was distended and extremely tender. He first experienced severe pain near the umbilicus, and then some pain on the right side, which soon became general over the entire abdomen. The case on examination looked like intestinal obstruction due to perforative peritonitis.

On operation he found the small intestines much distended. He allowed the distended coils of intestine to come out on the abdomen on hot towels. An incision was made in the jejunum, and the distended gut was incised, allowing gas to escape; a glass tube was then inserted pointing toward the rectum, and salt solution was introduced; a second opening was made lower down and through and through irrigation was done. This was re-



peated six times and the entire intestinal tract cleared. By a separate incision he removed the appendix. One enterostomy opening was left open. The patient made an uninterrupted recovery. The stomach was kept empty by being washed for 48 hours after the operation. The distention remained down after the operation. He has still a fistula remaining.

#### FRAGMENTATION OF SPLEEN FROM INJURY.

DR. A. T. BRISTOW stated that this patient was brought to the hospital in the ambulance and was in a condition of shock, having been run over by a wagon, the wheels passing over the child's abdomen. One point of interest was that there was absolutely not a scratch on this boy; there was nothing on his abdomen to indicate that he was run over. The speaker saw him in the morning and he was not then in a condition of shock. His abdomen was moderately tender, somewhat distended, and he thought by palpation he could get a faint wave. After deliberating the speaker sent the boy up to the operating room, made a median incision and immediately got a gush of blood. Emptying the abdomen of blood he enlarged the incision and first examined the intestine. What he expected to find was the intestine stripped off from the mesentery with a hemorrhage from the mesenteric vessels, but there was no injury to any of the hollow viscera, the stomach, large or small intestine. He examined the liver carefully and found nothing there. He put his hand over in the abdominal cavity, found something free, and pulled out a piece of spleen. He divided the abdominal wall straight in a transverse direction, leading him down to the pedicle. There was little hemorrhage with this incision. He delivered the spleen and found it in a condition of fragmentation. It was hung together with a few tassels of peritoneum. He transfixed the pedicle, tied it off, took out the entire spleen, and closed the abdomen with the exception of a little

drain. The boy was infused with about 14 ounces of normal saline solution.

Subsequently he had a pneumonia. He had recovered from his pneumonia and is now out of danger and thriving. The speaker had determined to have some blood counts to determine what, if any, influence, the removal of the spleen had on the blood cells, but, the pneumonia interfered to mask any evidence which would be of any value. His red cells fell after the operation to 3,500,000 and the white cells went up to 32,000.

#### CARCINOMA OF CECUM IN A YOUNG MAN.

DR. A. T. BRISTOW said this patient came to the hospital with a diagnosis of appendicitis. He saw him in the evening and the blood count was not high. The following morning he operated. The man was 21 years of age. The interesting point was that with the usual technic he exposed the appendix, and got a long appendix tucked behind the colon inflamed, not ruptured, but with a commencing spot of gangrene not far from the base. When the speaker delivered the head of the colon, his attention was directed to the base of the appendix, which seemed to have a hard ring about it passing into the cecum. He resected the appendix with a large portion of the head of the colon, and sutured the colon with the Pagenstecher thread and double stitched it. Then the patient got up a pneumonia on the sixth or seventh day when in the evening his temperature was  $103^{\circ}$ . The wound was opened and there was an escape of fecal contents. There was no evidence of peritonitis, his abdomen was flat, the bowels were moving. He had vomited two or three times during the week, but it was only as we see in a pneumonia. His temperature shot up to  $107.5^{\circ}$  and he died without any evidence of peritonitis. The speaker took the appendix down to Dr. Murray, who thought it was not epitheliomatous when he saw it, but at the end of the usual



interval a report was received from him, stating that the growth was a scirrhus carcinoma. Epitheliomas have been reported, but scirrhus was something new to him.

A month ago he removed an epithelioma from a boy of 14, whose brother had died at 18 of an epithelioma involving the whole of the eye.

We should understand, the speaker said, that cancer is not a disease of middle life strictly or those in advanced years. The more cases we see the more frequently we come across cancer in the young. He had seen as many cases of sarcoma in the old as in the young. We are taught that sarcoma occurs in the young with great frequency. A surgeon at the Albany Hospital told him they had a case of epithelioma of the colon in an infant. The speaker thought these facts were worth remembering.

#### *Abstract of Discussion.*

DR. H. B. DELATOUR spoke of one of the remote dangers in removing the spleen, a case that occurred to him a number of years ago, in which he removed the spleen. The patient did perfectly well until the end of the third week, when she was suddenly seized with severe abdominal pain and all the symptoms of acute intestinal obstruction. The shock of the occurrence was so great that operative interference at the time was deemed impossible, and the woman died within twelve hours. At the post mortem they found the entire small intestine gangrenous, and on tracing up the cause of the gangrene it was found, the clot which had formed in the splenic vein at the time of ligature had slowly formed along the whole length of the vein until it met the enteric vein and shut off the blood from the entire loop of intestine from which the vein drained. The case did perfectly well; until the third week everything went smoothly and nicely, and they had every reason to give a most excellent prognosis.

This spleen was 12 to 14 inches in length in its transverse diameter.

DR. G. L. BUIST asked for information in a case in which a diagnosis of splenic anemia had been made. The spleen at the present time is within three inches of the symphysis pubis. The case has decreased in measurement the last two weeks under X-ray treatment, but he asked: is it right to remove a spleen of that size, and what would be the chances of the patient's life? It seemed to him the patient would die if such a large spleen were removed.

DR. C. H. GOODRICH stated that he would open the abdomen in any case where the history of the injury seemed to show a sufficient cause for serious damage. He doubted if we can ever make an accurate diagnosis without opening the abdomen in these cases, when external evidences and all symptoms save those of shock are wanting.

DR. W. B. BRINSMADE would rather take exception to the last remark, as far as his personal experience was concerned. He thought in every very serious abdominal injury there were symptoms to point to the lesion, and did not think Dr. Bristow was rightly understood, that there were not sufficient symptoms there. He thought the indications for operation were very decided, although there were no marked symptoms. The boy had considerably more rigidity than a normal child ought to have. He thought in gunshot wounds of the abdomen, the contraction of the intestine where there is a hole causes a colicky pain, and if we examine the cases carefully we find some symptoms which point to an internal injury.

DR. C. H. GOODRICH replied that he had twice, in the absence of any sign of contusion, in the absence of any sufficient demand from local symptoms, opened the abdomen, and in one case he found a ruptured intestine and in the other a ruptured liver. If he had gone by the signs he found, the opening would have been delayed at least 24 hours. He had seen two cases where the opening was delayed, and in each case the patient perished.



## BOOK REVIEWS.

**Blood Examination in Surgical Diagnosis.** A Practical Study of Its Scope and Technic. By IRA S. WILE, M.D., New York. Duodecimo; 161 pages; 35 illustrations and 1 double-page colored plate. New York: Surgery Publishing Company, 1908. Cloth, price \$2.00.

The question of blood examination from its diagnostic and prognostic standpoint has been the subject of many monographs, but this treatise of 150 pages is the first to be devoted to the examination in purely surgical conditions. It is impossible, however, to confine one's self to the blood findings in their relation to surgical diagnosis without considering the medical diseases as well. The book has been practically written and is the summary of the large amount of literature which has recently been published. It does not pre-suppose any knowledge of hematology. The author takes up, first, the question of equipment, and then, in turn, the count of the red corpuscles, leucocytes, differential leucocyte count, coagulation, color index, cryoscopy, and reaction. After this, the application of the findings to diseased conditions is considered. At the present moment, one cannot properly judge the merits of a surgical case without understanding of this subject, and to many of the older surgeons who have not had the advantage of laboratory training, this work will be very helpful.

**Practical Points in Anesthesia.** By FREDERICK-EMIL NEEF, B.S., B.L., M.L., M.D., New York. Price Semi-De-Luxe-Cloth 60 cents, post paid. Library. De Luxe Ooze Flexible leather; \$1.50, post paid. Surgery Publishing Co., 92 William St., N. Y. U. S. A.

This book presents the impressions

of the author in the proper use of chloroform, ether and anesthol. It is a small monograph of 45 pages, which describes, first, the German Hospital system of inducing anesthesia. In this chapter the mask is described, the induction of anesthesia with anesthol or chloroform, and a description of the different degrees of anesthesia. The book contains simply practical suggestions and common sense ideas on anesthesia.

**Seven Hundred Surgical Suggestions.** Practical Brevities in Surgical Diagnosis and Treatment. By WALTER M. BRICKNER, B.S., M.D., Assistant Adjunct Surgeon, Mount Sinai Hospital, New York; Editor-in-Chief, *American Journal of Surgery*, ELI MOSCHOCOWITZ A.B., M.D., Assistant Physician, Mount Sinai Hospital Dispensary, New York, and HAROLD M. HAYS, M.A., M.D. Third Series. Duodecimo; 153 pages. New York: Surgery Publishing Co., 92 William Street. Price, semi-de-lux, \$1.00.

This little volume contains seven hundred surgical suggestions, which are practical brevities in diagnosis and treatment. The idea is an unique one, and reminds the reviewer very much of the service one obtains on an ambulance, where his aid is needed quickly and but a short time, the main treatment being conducted at the hospital. This little book might well be called *An Ambulance Service in Surgery*, and it would be well worth the student's time to review the suggestions carefully. The book is full of useful information, and the suggestions are classed together in small paragraphs and under general group headings. The work is attractively gotten up.



# LONG ISLAND MEDICAL JOURNAL

VOL. III

MAY, 1909

No. 5

## THE RATIONAL TREATMENT OF TYPHOID FEVER.\*

By EDWARD E. CORNWALL, M.D.

BROOKLYN-NEW YORK.

Attending Physician to the Williamsburgh and Norwegian Hospitals; Professor of Internal Medicine in the Brooklyn Post-Graduate Medical School.

THE treatment of most diseases is still largely a matter of opinion. This is eminently so in the case of typhoid fever. Numerous and varied are the remedies and methods used and recommended for the treatment of this disease by physicians of ability and reputation, who support their therapeutic opinions by plausible arguments and favorable clinical reports. In this conflict of many opinions it is not easy for the individual practitioner, seeking the ideal of rational therapeutics, to decide what is the best treatment for him to use on particular patients. It is perhaps the more difficult if he has had considerable experience with the disease and, as is natural in such case, has formed opinions of his own. In the following remarks on the rational treatment of typhoid fever the writer will attempt, briefly and imperfectly indeed, to critically estimate the value of some of the more influential opinions regarding typhoid therapeutics, and to determine what, in the present state of medical enlightenment, may be considered the rational treatment of this disease.

First let us consider the claims made for a specific treatment. This is the treatment for which we are all looking.

Experiments have been made with antitoxic or bactericidal sera, particularly by Chantamesse, who reports 1,000 cases treated by such a serum

with a mortality of 4.3 per cent. Without going into the details of these experiments we may say that they have not so far realized our anticipations. As yet we are without a reliable specific treatment of this character, though we retain the hope that one may be discovered.

The idea of killing the germs with antiseptic drugs introduced into the body has charmed the imaginations of many, and probably the majority of physicians who treat typhoid fever today give some kind of an antiseptic drug, either on the supposition that it will kill the germs in the intestinal canal, or the supposition that it will make the fluids of the body an antiseptic solution strong enough to effect the discomfiture of the germs lodged in the tissues. That any antiseptic drug can be given in sufficient quantity to make the body fluids bactericidal without disastrous consequences to the tissues of the patient is so obviously impossible that we may disregard therapeutic opinions along this line, notwithstanding the fact that Willcox in a recent book insists that typhoid fever patients treated with chlorine water ought not to show a mortality of more than 2 per cent., and that Bryant reports 200 cases of typhoid treated with inunctions of guaiacol with only one death. This question seems to have been satisfactorily answered by McCrea in Osler's Modern Medicine, who says "there is no

\*Read before the Medical Association of Greater New York, February 1, 1909.



specific drug treatment for typhoid fever."

Besides the antitoxic sera and the antiseptic drugs there are other methods of treatment for which a more or less specific action has been claimed.

The fact that one of the most constant manifestations of the disease is the formation of ulcers in the intestines has led some to attempt direct treatment of these ulcers. On the principle that the surface of an ulcer should be kept free from irritating substances, they advocate continual purging and a diet consisting almost entirely of water or of articles which leave little residue to pass through the ulcerated intestine. Ewart in addition to daily purging with calomel and salts recommends administration of frequent doses of liquid paraffin mixed with animal charcoal for the purpose of applying a medicament locally to the ulcers. He reports 100 cases thus treated with only two deaths. Treatment with continuous purgation does not seem rational in view of the clinical fact that the cases which are constipated regularly do better than those which have diarrhoea.

A method of treatment for which a more or less specific action has been claimed is that of systematic tubbing with cold water, the Brand method. In this method the baths are given primarily not for their antipyretic effect but for their effect on the vital functions, which it is claimed they energize, thereby enabling the patient more easily to overcome his disease. That this is a valuable method is very generally conceded. The conservative Osler says that six or eight out of every hundred patients can be saved by its use.

This method of treatment has been known and practiced for nearly a generation; it has the endorsement of the highest authorities; yet it is not universally used. Far from it. It is safe to say that a large majority of the cases of typhoid fever treated in this country at the present time do not receive the Brand baths.

Physicians are, as a rule, conscientious; they are eager to do the best

possible for their patients, and would not wilfully neglect to use a method of treatment, even if sometimes a little inconvenient of application, which they believed would double, or even materially increase their patients' chances of recovery. The obvious explanation, therefore, of the apathy of the great mass of the medical profession toward the Brand treatment must be that they have a lurking suspicion that the claims put forth for it are exaggerated.

Let us subject these claims to critical analysis.

Much is made of the statistical evidence. There is an inherent weakness in this evidence because it does not take into account all the factors. Moreover, it is probable that a considerable proportion of the statistics published refer to selected cases. Furthermore, the variations in severity of the disease and in the occurrence of serious complications at different times and in different places are such that it is difficult to get a continuous series of cases by this method which is large enough to eliminate the confusing factors. The statistics most widely quoted in support of the Brand method are, perhaps, those of Hare of Brisbane. During the four years preceding 1886 there were treated in the Brisbane Hospital, according to Hare, 1,828 cases with a mortality of 14.8 per cent; and during the ten years following that date, there were treated in the same hospital 1,902 cases with a mortality of 7.5 per cent. The Brand baths were used during the second period and not during the first, and the inference is drawn that the difference in mortality observed between the two periods was due to the baths. This may be a true inference, but it is not necessarily true. The evidence is not complete. We may justly suppose that the prevalence of typhoid in Brisbane during the two periods compared was correctly reflected by the number of cases treated in this hospital, which indicate that during the first period the disease was two and a half times as prevalent as during the second, and suggest that the epidemic



in the first period was severer than in the second. It is a reasonable probability that in the second period, the one during which the baths were used, the general run of cases was milder. And it is impossible to tell how much of the credit for the lowered death rate belongs to improvements in nursing and feeding, of which the patients of the second period enjoyed the advantage.

Besides the general claim of lowering the death rate, claims of a particular character are made for the Brand baths, notably that they cause marked improvement in the nervous symptoms, ameliorate the toxic symptoms, diminish the liability to bedsores, and stimulate the circulation and respiration. These particular claims, even if allowed, do not seem sufficiently important and exclusive to compel the universal employment of the baths, especially when we take into account the limitations and contraindications to their use.

It has not been proved, nor is it claimed, that the baths in any way shorten the period of the fever, nor that they diminish the liability to intestinal hemorrhage and perforation, two of the most common causes of death. McCrea who advocates their use, says that relapses may be increased by them. It is conceded that to be effective it is necessary that they be begun early in the disease, which means that the cases come under treatment early, a circumstance in itself which makes for a favorable prognosis and a low death rate; for a large proportion of the fatalities occur in cases which come under treatment late in the disease and after a period of neglect. In a consecutive series of 100 hospital cases recently reported by the writer, 10 out of the 16 deaths occurred in patients who were admitted to the hospital in the third week or later of the disease, too late for treatment to materially affect the prognosis.

The contraindications to the use of the baths are distinct and important. A certain proportion of typhoid patients do not stand them well just as

a certain proportion of people in health do not react well to cold baths. The baths should not be begun when the patient is very ill, says McCrea. They are absolutely contraindicated in the presence of hemorrhage, pneumonia, peritonitis, severe abdominal pain, phlebitis and great prostration. Myocardial weakness is a very important contraindication, for the sudden strain thrown on the myocardium by the vasomotor stimulation of the baths is capable of doing serious harm, even of producing cardiac dilatation. It is also evident that the sudden raising of the blood pressure caused by the baths is capable of producing rupture of an eroded blood vessel in the intestine or of increasing existing hemorrhage which has not yet manifested itself. As a general contraindication to their use might be mentioned the desirability of keeping patients with typhoid fever in bed.

The foregoing criticisms of the Brand method may explain its failure to establish itself as a universally used treatment, notwithstanding the chorus which has so long been sung in its praise with scarcely a dissenting voice.

If there is no true specific treatment for typhoid fever, and if the "near" specific treatments are not near enough, it would seem that the rational treatment of this disease consisted in general of keeping the patient in the condition most favorable for the operation of his natural powers of recovery, feeding him to the best advantage, and treating his symptoms and complications as they arise.

That the nursing should be the best that it is possible to secure is a proposition that does not admit of debate. Patients in the city who cannot afford a trained nurse should be treated in a hospital.

The regulation of the diet probably has more to do with the prognosis than anything else that is within the physicians' control. We have to support through a wasting disease, which, though self-limited, lasts at least several weeks, a patient whose digestive system is crippled, in whose intestines



are ulcers that excite intestinal catarrh, that are capable of eroding blood vessels and perforating intestinal walls. We have to take into account predisposition to fermentation of the intestinal contents and absorption of toxins. A large proportion if not a majority of the deaths in this disease result from surgical accidents connected with the local history of the intestinal ulcers, comparatively few from the severity of the disease itself. Of the last 20 deaths in the writer's experience, only one could be directly ascribed to the severity of the disease, and that occurred in a man of sixty-six with advanced arteriosclerosis; seven were due to pneumonia, nine to intestinal hemorrhage, and three to perforation. Our only means of minimizing irritation of the ulcers by fermenting masses of food and preventing dangerous tympanites is by regulation of diet. How complicated is the dietetic problem is evident from the pathological allusions above made. On the one hand, the diet must be such as not to provoke diarrhœa, tympanites, intestinal hemorrhage and perforation, and on the other, it must be sufficient to keep the patient from starving and bring him through the disease with strength enough to convalesce.

The dangers both from starvation and overfeeding are not equally feared by all physicians, and great diversity of opinion exists as to what is the best and safest diet in typhoid. There are some who advocate a starvation diet, even such a diet aggravated by purgatives, and produce statistics to show that it improves all the symptoms, wards off complications, and even shortens the period of the disease. Others are trying to persuade us that rational treatment calls for a fairly liberal diet, one much more liberal than the fluid diet that has been generally approved during many years, one that permits solid or semisolid food, such as gruels, eggs, cereals, toast, etc., during the febrile period, and meat very soon after the fever has abated; and even white and brown bread, hard boiled eggs chopped fine,

cutlets and steaks during the febrile period. These also exhibit statistics. The principal arguments in favor of the starvation diet have been alluded to already; they probably have less influence with the medical public now than they had a few years ago. The question of what constitutes the rational diet seems to lie between fluid diet and liberal diet.

The liberal diet is more agreeable to the patient than fluid diet; it enables him to ingest more food. Those are the principal arguments in its favor. On the other hand, it is evident from many years experience that an exclusively fluid diet can supply adequate nourishment in this disease, and there are good reasons to believe that it is less likely to disturb the ulcerated intestines. There is also a general indication for a fluid diet in the presence of fever, which the advocates of the liberal diet seem to overlook. Perhaps the most definite principle in typhoid therapeutics which clinical experience extending over a long period has established, is the advisability of conservatism in diet. Most physicians who have much to do with this disease can recall instances in which they were influenced to give solid food earlier than usual, and regretted it when the patients shortly after developed intestinal hemorrhage, perforation, or a relapse. These untoward happenings may have been only coincidences, but they are sufficiently numerous to be suggestive of a relation of cause and effect. It is difficult to divest ourself of the idea that the relation between dietetic indiscretions and intestinal complications and relapses is a close one. As the case stands, the so-called liberal diet appears to be something different without being better. Its advantages do not seem to be great enough to counterbalance its dangers.

If we commit ourselves, then, to a fluid diet, the question arises, what fluids shall we give? and how much?

It is not the amount of food swallowed but the amount assimilated that counts. In view of the condition of the intestines it is more likely that a



moderate quantity will be assimilated without disturbance than a large one. The indications for making the diet moderate in amount are reasonably clear.

The minimum amount of nourishment with which a typhoid patient lying in bed can be expected to get along well, is about equivalent in food value to three pints of milk. Such a diet gives not far from 50 grams of proteid and 1,000 calories. With such a limited amount of food it has been many times demonstrated that typhoid patients can be safely supported until convalescence. They will not grow fat on it, but if they assimilate it well they will not emaciate unduly. It is always desirable and often possible to increase this amount of nourishment, and sometimes for short periods it has to be greatly diminished.

Milk is mentioned for convenience in estimating the food value of the diet, and it is an ideal food by itself in many respects, but in others it is undesirable. It is fashionable just now in some quarters to decry milk altogether as a food in typhoid. It is true that when given raw in its pure state it is often objectionable; but properly modified it is, in the opinion of an overwhelming majority of the medical world, the most valuable article in the typhoid dietary and one whose place we would find it very difficult to fill.

Milk can be satisfactorily modified by peptonization, when there is gastric indigestion, by sterilization and dilution with barley water, and by the addition of pure cultures of the lactic acid bacillus which cause it to curdle in fine flakes. The modification known as whey is also a serviceable one.

Besides modified milk, the typhoid dietary during the febrile period may include clear or flavored barley water, oatmeal water, rice water, albumin water, strained orange and lemon juice, grape juice, some of the artificial baby foods and peptonized foods, plain jellies and ice cream.

With this diet, changed as to its elements according to circumstances and complications, the writer has had

what seems to him satisfactory results. Emaciation has not been excessive in his cases except when special reasons existed for it, and tympanites and diarrhœa have not been prominent symptoms. In only 10 out of 100 cases recently reported by him, which were fed according to the principles just laid down, and among which the proportion of severe infections was considerably above the average, was tympanites noted, and only 23 of them had diarrhœa.

In this connection it may be interesting to quote some statistics regarding death rates in patients fed with these different diets.

Harbin reports 144 cases fed on starvation diet with a mortality of 3.4 per cent.

Seibert reports 338 cases fed on milk-free and rather liberal diet with a mortality of 3.1 per cent.

Landis reports 305 cases fed on fluids, principally milk, with a mortality of 2.3 per cent.

The above figures show how easy it is to get statistics to support any therapeutic theory. It is interesting to compare with these some mortality statistics taken from hospital reports, which deal with truly unselected cases.

In the London Hospital between 1894 and 1904, there were treated 1,542 cases of typhoid with a mortality of 16.8 per cent.

In the year 1906 the typhoid mortality in a few representative hospitals in this section of the country was as follows:

Boston City Hospital, 340 cases, mortality 15 per cent.; Bellevue Hospital, 136 cases, mortality 18.5 per cent.; Roosevelt Hospital, 123 cases, mortality 13 per cent.; New York Hospital, 98 cases, mortality 8 per cent.; Norwegian Hospital, 78 cases, mortality 14.1 per cent.; New York Post Graduate Hospital, 28 cases, mortality 21.4 per cent.; Williamsburgh Hospital, 32 cases, mortality 3.1 per cent.

In the above list the lowest mortality is shown by the Williamsburgh Hospital, but that low mortality, the writer is able to state, can be largely



ascribed to a run of unusually mild cases; he does not claim it altogether as a result of the fact that these cases were fed on fluid diet, mostly milk.

Many cases of typhoid require no other treatment than nursing and regulation of diet; others, however, develop symptoms and complications which call for special therapeutic measures. The limited scope of this paper permits allusion to only a few of these special therapeutic indications.

For the reduction of the fever, when continuously high, opinion is practically unanimous that cold water is the only agent that should be used.

There is no known means of minimizing the occurrence of intestinal hemorrhage except by regulation of the diet and improvement of the circulation. A sluggish circulation means badly nourished tissues and poor resistance to encroaching ulcers. When hemorrhage occurs all feeding should be stopped for a short time, and then articles given which are absorbed mostly in the upper part of the alimentary canal. It seems good practice to give enough morphine to quiet peristalsis, but not enough to lock up the intestinal secretions and mask symptoms of perforation if they should develop. The value of calcium chloride in increasing the coagulability of the blood is still in question, but the writer has seen its use followed by cessation of the hemorrhage.

The rational treatment of perforation seems to be exclusively surgical.

Tympanites and diarrhœa both call for a highly restricted diet, consisting largely of barley water. Tympanites will not be very common if the patient is fed according to the principles already laid down. Turpentine by mouth should be given only as a last resort. For the diarrhœa, if considerable, bismuth in large doses and opium in small ones are probably the drugs of preference.

For the headache and restlessness occurring in the early part of the disease there seem to be no drugs more useful than the bromides and morphine. The coal tar analgesics should never be used.

Myocardial weakness is always present in greater or less degree and judicious stimulation of the heart is often an important part of the symptomatic treatment. By raising the blood pressure, which is usually low, the ability of the tissues to resist degeneration is increased, and the elimination of toxins by the kidneys is facilitated. Strychnine in small doses is probably the best drug to use at first, and later, if required, tincture of strophanthus may be added, but only in doses ranging between one and a half to three minims; in these doses it is a valuable heart stimulant, but in larger ones it is apt to do more harm than good. In bad cases more strychnine may be given, and also caffeine, camphor and aromatic spirits of ammonia. Whiskey in small, frequently repeated doses is sometimes useful, especially if there is pronounced toxemia.

The toxemia is rationally treated along two lines, by limiting fermentation in the intestines and consequently the quantity of toxins absorbed therefrom, and by stimulating excretion through the kidneys of the toxins in the blood. The first is most effectively done by regulation of diet, and advocates of the milk-free diet find their strongest argument in the reputation which milk has as a culture medium. This argument is not without force as regards whole raw milk, but milk sterilized and properly modified, given in quantities within the digestive capacity of the patient, does not deserve the odium which has been cast upon it. The specific toxemia produced by the typhoid germs in the system calls more particularly for treatment. The most obvious way to stimulate excretion through the kidneys is by ingestion of large quantities of water. But here we have limitations to consider. While large quantities of water are desirable, excessive quantities are capable of doing harm. The kidneys are more or less weakened in their functional power by the disease, and the heart, which has to pump the excess of water through the kidneys, is al-



ways somewhat debilitated and may be greatly so; and it certainly is not good practice to subject the heart to danger of strain and dilitation. Frequent colonic irrigations with normal saline solution have been used for introducing large quantities of fluid into the body as well as for the purpose of cleaning out the intestines, the contents of the small intestine being brought down into the colon by the peristalsis excited and thence washed out of the body. This procedure seems good from some points of view but is open to objection from others. It may introduce more fluid into the system than is desirable, it may cause irritation of the lower bowel, and it may produce an excessive amount of peristalsis; and it has not yet been satisfactorily demonstrated that excessive peristalsis is beneficial in typhoid; that is even doubtful in view of the fact before alluded to, that constipated patients regularly do better than those with diarrhœa; which apparently contradicts the argument that toxemia is diminished by keeping the bowels empty. It would seem as if the rational course to pursue in regard to the elimination of toxins is, to give a moderate diet which will disturb the intestines as little as possible and be well assimilated, to give as much water as the cardio-renal apparatus can get rid of without being overtaxed, and to judiciously stimulate the heart if it shows signs of undue weakness. In the great majority of cases properly fed and otherwise well treated, tox-

emia in marked degree is not a prominent symptom. Some toxemia there must always be with this disease.

Alcohol has been extensively given in times past for the toxemia of typhoid, and also as a food, and is still prescribed, though with more moderation than formerly. It is probable that alcohol in small doses, aggregating not more than two ounces in a day, may be beneficial in many cases, but there are certainly some patients whose nervous symptoms are aggravated by it even in very small doses. In large doses it burdens the patient with an added toxemia.

In bringing these fragmentary remarks on the great subject of typhoid therapeutics to a close, the writer would like to state as his conclusion, based on his own experience and his study of the recorded experiences of others, that the rational treatment of typhoid fever, in the present state of medical enlightenment, consists essentially in hygiene, nursing, feeding with a moderate amount of fluid food, principally modified milk, until a week or ten days after defervescence, and the treatment *secundum artem* of any symptoms and complications that nature herself cannot take care of. He would also like to state his opinion, that the lessening of the death rate in this disease which has been observed during the past twenty years is principally due to improvements in nursing and feeding and increased conservatism in the use of drugs.

1239 Pacific Street.

---

## CLIMATE IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

By HORACE GREELEY, M.D.

BROOKLYN-NEW YORK

---

THE great demand for what may be called easy explanations of obscure phenomena has, from the time the first fetish was conceived, been a creator of mental labyrinths in

some of which every one is sure to lose his way. Here creations of the imagination are reared, tended and so pampered generally that, though similar products of others may be laughed



at and torn to pieces by reason, all those of home production are placed among elemental truths, such as the physical properties of hot and cold water, that appeal to our understanding through every avenue of sensation, and are rarely examined by that faculty and in no event more critically than the average man does a sun-spot through a bit of smoked glass. Many of these theories become generally accepted by reason of fitting in with some of their predecessors or merely through lack of a more promising competitor, and when once so enthroned in the general mind, either lay or special, are more difficult to dislodge than was Sindbad's Old-Man-of-the-Sea. They are then regarded by the community with the same unquestioning reverence that a schoolboy bestows upon those representatives of various departed fellow-countrymen that the climbing ambitions of later and less distinguished individuals have reared in a "Temple of Fame."

This, I believe, is so with what is called the climatic treatment of tuberculosis; and as Sindbad first made his troublesome Old Man drunk before his successful effort of dislodgment, I hope to loosen the hold of the present patriarch by confounding him with his many inconsistencies and absurdities.

Every one knows the popular belief in the specificity of such places as Colorado and Sullivan County for the pulmonary form, and unfortunately, many physicians still cherish a belief in the curative powers of such special localities either from contagion of ideas, willingness to catch at any possibility of cure for a disease frequently regarded by them as incurable, or even from a desire to shirk responsibility by recommending a procedure, long approved by custom, under which it may be said that the patient was given the best chance by advice; while, were he kept at home, the physician fears to see all efforts fail and an unchecked decline advance under his immediate care when failure is more apparent and blame more direct.

Therapeutically he might be said to be following the modern tendency to avoid shot-gun methods and to aim at single medication with a specific, but unfortunately his faith is ill-placed and he leans upon a broken reed. He often can give no reason at all for it beyond the statement that "It does the best work and I am satisfied with that," thus confusing results due to the action of several simple and easily understood agencies with imaginary benefits from a single but more imposing one.

Of the believers in climate cure, some physicians who make a point of particularity and dwell on individualization of patients consult a handbook of climatology, whose author, a positivist of the patent medicine man kind, has found a locality therapeutically potent for every ailment and prescribes different meteorological conditions for various forms and stages of tuberculosis. He runs his finger down the list, picks out a name, and sends off his patient, who naturally has no more chance of thus reaching his goal than Pomp, the runaway slave, had when he started to follow the North-Star as pointed out by Bird-o'-Freedom Saw-in, "Who wheeled around about so'-west and pickin' out a middlin' shiny one told him that was it."

One of our standard text-books on the practice of medicine says:

"In any case of tuberculosis that climate is most suitable in which the patient 'feels well, eats well, sleeps well and gains flesh and strength' (Delafield). Until the patient finds such a climate, or if he finds no single climate to produce these results, he should travel from place to place unless special contra-indications (excessive debility, etc.) exist." (*Practice of Medicine*, Anders, 8th Edition, 1907.) Such advice if followed by the average case can only destroy. That climate does not do the work claimed for it those who may be said to be in at the death know. The physician may hear that his patients have gone West, and then perhaps that they are better, but particulars and after history are neglected.



Of course, irrespective of the stage of the disease, many of them improve; they stop work, eat better and more food, appetite and digestion return with rest, they get more fresh air, are pleased with the change of scene and get away from the interference of foolish friends and troubling relatives. However, so soon as their annoying symptoms have disappeared, and by this time they may even seem to be in better health than ever before, they return to old habits and surroundings which have been proved sufficient to develop the malady in the comparatively sound lungs and cannot but be expected to continue the work in these when the disease has merely paused in its advance long enough to permit the rest of the system to regain its loss, and now, naturally presenting less resistance than when the malady first developed, they soon suffer from its renewed activity. The home climate, of course, gets the blame, and perhaps they start off anew to their ideal and again improve, to return as before with similar results. This, of course, cannot be repeated indefinitely, as each time more and more of the lung is destroyed, so that eventually a favorable reaction fails to take place and they either die still hoping, or, accepting the now inevitable, return home for the climax, which is perhaps reached on the train or just over their own doorstep, as I saw in a neighbor's case the other day, who had just returned from Denver, and, I was told, had been suffering from "whooping cough."

Were such patients taught the real cause of their improvement it could at least be made more permanent, or even continue till final recovery, but pinning their faith to the fetish climate, they neglect their real savior, the trinity—rest, food and air. For a certain time from circumstance, debility and fear they modify their activity, diet and habits, and submit to what are regarded as hardships, with the understanding that it will be only for a while, though for complete healing of even moderate pulmonary lesions experience has shown that

with the great majority years of steady improvement are required, and even then common sense dictates that the exciting conditions should never be returned to.

Those who remove permanently to a favored clime and recover, never experiencing a relapse, apparently establish a better claim for the climatic treatment, but in almost every such case the patient first takes a prolonged rest and a plentiful supply of food in the open air, and never returns to his former habits or avocation; furthermore, it is evident that the great majority of patients financially able to do this are at the same time more able to provide the food and surroundings needed, and being often of superior intelligence, learn to care for themselves better and to recognize cause and effect.

The secondary position of climate is plainly stated in the following quotation:

"To obtain good results lung specialists of the West must have patients sent to them early in the disease, and they must come with money enough to enable them to have the best of food and care for a period of not less than two years, during which time they must leave off work absolutely. It is not denied that patients can do laborious work and sometimes recover, for, out West, one sees scores of people who have recovered in spite of such foolishness; but speaking of the average case, he who must work will surely succumb. Climate cannot save these patients unless they have proper food and freedom from work and worry; and climate cannot cure the average case in six months or twelve months. The fatal weakness of climate cure is the fact that the stay is too short by far. What can be expected in three months? The stay should not be less than two years." (*New York Medical Journal*, January 5, 1907, J. O. Cobb, U. S. M. H. and P. H. Service, Los Angeles.)

It is the very evanescent nature of the improvement induced by these sojourns in a favored clime that is producing a reaction against such



methods, a reaction that may go too far.

Francine in his book on tuberculosis says:

"As insisted upon by Walsh, of Philadelphia, Jacobi, of New York, and others, these cases can be treated most successfully right in the heart of a great city, and the former authority goes so far as to say that a case of consumption which cannot be cured at home cannot be cured anywhere. Flick, of Philadelphia, was one of the earliest, if not the first, to affirm this. He says that as tuberculosis is a disease of the home, running its course in the home, proving fatal in the home, it is too prevalent to be treated except in the home." (*Tuberculosis*, by A. P. Francine, page 63.)

And so it has been, but with such poor results that almost every layman and many physicians assert that it is incurable, while it is a certain and easily demonstrable fact that there are very few other maladies in whose management a physician can show such usefulness and feel so confident that without his aid the good result would not have been. But this is very difficult of accomplishment where we are expected by the use of drugs (here certainly more useless and often harmful than with most other cases of disease) to counteract the effect of surrounding conditions which, having contributed to the malady's development, cannot but be expected (if allowed to continue) to hasten its progress.

It may be said that it is our duty to change these conditions within the limits allowed by the patient's financial status, and so it is, but as the grown-up child perceives the truth no more readily as his years advance, its frequent repetition with demonstration and object lesson is necessary to carry conviction to one who often has been hardened by a lifetime of prejudiced ignorance. The disease is usually well established before a sufferer seeks medical advice (if not he is most difficult to permanently convince of his condition); and often, while the physician is battling with the super-

stitutions of the patient, his family, and friends, and trying to change the habits of a lifetime by argument, the case gets worse and both opportunity and the confidence of a family are lost. The physician may even be deceived intentionally, or otherwise, as to the measures adopted, and the patient think that his own modification of the counsel given contains its full value, and go down a path he need not pursue. It is for these reasons above all others that a course in a sanatorium is most advisable, as here are demonstrated the measures advised and the patient sees their good result in the improvement of others and his own betterment, which he will realize was not attained under other conditions, and when he returns home both habit and conviction will secure their continuation and insure the best result. His stay in such an institution need not be over three months, and the cost (perhaps not over \$10 a week) may not exceed that of home care.

The patient should be told that he is going away to get a sure start on the road to good health and instruction in methods, which, if followed, will insure complete recovery and avoid all danger of future recurrence. For convenience and accessibility to friends, and especially to avoid giving the impression that the results cannot be continued upon return home, the sanatorium should be near at hand where the imagination cannot give the credit to change of climate.

"And even though the patient has plenty of money and comes West, it is not easy for him to obtain the kind of attention best suitable to his case, unless he goes to a good sanatorium. The average consumptive and his friends will not admit that he has the disease, and they nearly always try to delude themselves, and others, that he is only 'threatened,' or has 'weak lungs.' To suggest that the patient go to a sanatorium usually brings trouble for the physician, for the patient foolishly believes that to go to such an institution is to proclaim the nature of his disease. The only thing to which he will consent



is to go West, but as a rule such a person is never satisfied, and it is first this altitude and that, his gaze ever westward. On he moves from one town to another, while the tache of the great white plague deepens upon his prominent cheekbones, and his rasping voice harshens to a croak. He little knows the tragedy written in his face as he turns from the unwelcoming stare of one boarding house keeper to another. Hotels and boarding houses do not want the consumptive, whether rich or poor."—*J. O. Cobb, M.D., U. S. P. H. and M. H. Service, Los Angeles, N. Y. M. J., January 5, 1907.*

Let us now apply a little horse sense to analysis of the possible effects of climate upon lung tuberculosis; and considering its elements somewhat individually the question of temperature may be first considered. Hot climates are debilitating, as here a great and constant drain upon the body's energy is made by its heat-regulating mechanism for its natural processes, of necessity, generate heat, which when greater than that required for warming purposes becomes a burden that must be got rid of, and as with the sick every possible economy of strength should be sought, all use of energy for such purposes should be guarded against.

Great cold, demanding a special production of heat for maintaining temperature, is likewise wasteful, and both of these elements, excessive heat and excessive cold, are additionally harmful owing to the personal discomfort produced. The last especially tending to confinement within doors may operate to prevent the access of a constant supply of pure air.

According to Ranke, the "optimum temperature for man, securing the well-being of the organism with least expenditure of energy on its part," is from 59° to 68° F.

With other considerations equal such a temperature would of course be desirable.

Purity of air is to be sought, as with it chronic poisoning from gaseous impurity (combustion products and emanations, such as what is known collec-

tively as "crowd poison") and the irritating action of suspended impurities upon the respiratory system, are avoided.

Prevalence of excessive air currents is undersirable, as they raise dust and in cold weather add greatly to a patient's discomfort.

Sunshine is known positively to greatly assist in maintaining cheerfulness, a very important factor in all cases of illness, but unless one is kept within doors and breathing vitiated air by its absence, is not otherwise important.

Dryness of air both of high altitudes and elsewhere is claimed to have an especially good effect upon cases of lung tuberculosis, yet how frequently is the croup-kettle called upon to treat inflammations of the same areas, and medicaments calculated to diminish the viscosity of the bronchial discharges given both in order to facilitate the discharge of poisonous material and to reduce the effort necessary to expel the same.

When tubercular patients enter a dry atmosphere, as upon removal to Colorado, Arizona or New Mexico, the irritation of their air passages is usually increased and their cough becomes more harassing. This is due of course to the greater amount of moisture carried off by the respired air which leaves the mucous membrane more exposed to the action of irritant materials and the secretions more viscid and difficult to expel. In the district referred to of course the alkalinity of the dust is a factor in increasing bronchial irritation. Of course, if the climate be either very hot or very cold a dry air is desirable, as in the first instance it is most favorable for the body's heat-regulating processes, and in the latter, not being so good a conductor of heat as when moist, does not carry off so much warmth.

"While the balance of proof is in favor of a dry climate for consumption, the balance is not very large, for many patients have appeared to do better in moist and mild climates like those of the coast of Southern Cali-



fornia and the north shore of the Mediterranean Sea, as well as out to sea in mild climates. Here the patients complain less of dryness of the respiratory passages and have less of the annoying, dry, and useless cough; and as the mildness permits them to live much out of doors, they are able to have the greatest benefit of any climate."

Density of the air: Although the established first principle in the care of an inflammation has long demanded the greatest amount of rest obtainable for the part involved, yet during the same period high altitudes have been deemed almost specific for lung tuberculosis notwithstanding that it was known that here extra work is placed upon the respiratory system. The increased rarity of oxygen entailing greater exertion upon the part of the individual and his lungs to secure the quota required, the possible resting time is greatly diminished, and when the lungs' normal capacity is reduced beyond a certain point, their ability under these conditions, even by maximal activity, to supply sufficient oxygen is overcome, and the additional physical exertion is decidedly harmful to many cases, especially those with considerable involvement, or with fever, or both. Those with a subnormal coagulability of the blood are here more apt to suffer from hemorrhages.

A favorite theory long held was that the more rapid and deeper breathing required by the rarefied air expanded lung vesicles and so helped to cure the disease. But I believe this theory is untenable, because it is no benefit to the diseased lung tissue, but the contrary, to have it expanded extremely.

Now having alluded to the baneful effects of high altitudes (over 2,500 feet) and very dry air, it is desirable to speak of the good that may undoubtedly be done to many patients by them.

Sir Almroth Wright has shown that the good effects produced by a mitral regurgitation upon lung tuberculosis, Bier's congestion treatment of tuber-

culosis of the extremities, regulated exercises such as forced respiration, cold sponging of the chest, are all due to auto-inoculation. The increased amount of blood reaching the part carries away a greater dose of the toxins which then stimulate a greater production of opsonins (and possibly other anti-bodies) by the body at large. These are returned and bathe the diseased focus in greater strength than before, enabling the cells of inflammation to engulf more of the bacilli and to make better headway in checking, or even in eradicating, the malady. This process, he says, has an effect similar to the treatment with various forms of tuberculin, but it is not so easily regulated. However, as a general rule it has been shown "that auto-inoculations follow upon all active and passive movements which effect a focus of infection, and upon all vascular changes which activate the lymph-stream in such a focus."

I now venture to suggest that the real high-altitude-dry-air effect is in the same category. Here the increased functional activity of the lungs and their stimulated circulation (vascular and lymphatic) greatly increase the amount of blood-serum passing through them, and of course the amount that reaches their tissue cells and the outposts at least of the invading army, thus bringing to bear upon the micro-organisms all those guns of the body that may be transported by its water-ways.

However, good effects from tuberculin inoculation (and I think from some experience that there are such) can only be obtained when its dosage is regulated, which is impossible by the auto-inoculation thus produced, and while in some cases lung conditions may tend to prevent an overdose by this rarefied-air method, the average patient cannot be trusted to it. It might be also claimed that as local, cellular resistance is undoubtedly very potent in resisting and overcoming invading organisms, and as an increased blood supply is known normally to stimulate all tissues to increased activity and growth, that said



local resistance was much increased by the greater circulatory activity.

Most of the evaporation from the lung's air-exposed surfaces takes place from the bronchial tubes, and as this would be markedly increased by a particularly dry air, it is easily seen how the flow of serum to them would be increased with the demand, and thus wash with an additional supply of anti-bacterial substances a portion of the lung most susceptible to the tubercle bacillus, its framework, which is nourished by the bronchial blood supply.

No claim can be made for benefit from an increased hæmoglobin and cellular richness of the blood due to the stimulus of unusual altitudes, as these conditions, when so produced, are known to be of only temporary duration, being the necessary reaction of the system to the requirements of its situation, and as there is more work to be accomplished it cannot be said that on this account alone the blood is more efficient than before. Like muscles hypertrophied by unusual and prolonged exercise, no sooner are the normal conditions returned to than shrinkage begins and the then no longer necessary addition rapidly disappears.

I think that we need not consider any special physical state of the land separable from conditions already discussed, as since Adam and Eve discarded their fig-leaves for bear-skins, and no longer slept upon the ground, we have been able to live upon any soil with comfort and health, be it sand, or clay, black-muck and even the famous ground water of Pettenkofer, be it high or low, need not be taken for the frightful bug-a-boo that it appears to be in our books on hygiene.

The following quotations from standard authorities are of interest:

"There is no specific climate for pulmonary tuberculosis and a good climate alone is of little avail" (Lawrason Brown, page 392, *Osler's Modern Medicine*).

"In thus speaking of air at the outset, in discussing climate, I have anticipated a point of general climatol-

ogy to emphasize the pronounced importance of this factor, and to suggest that, wherever there is pure air the climate is generally desirable for most cases, irrespective of other circumstances" (Paul Paquin, M. D., Asheville, N. C., *Jour. Amer. Med. Asso.*, Sept. 14, 1907).

"At first, and for a considerable time, mountainous air regions or high altitudes were considered essential sites for sanatoria, as the potency of climate *per se* was exaggerated, or at least not rightly understood. Nor can this question be considered settled to-day, though it seems probable that the importance of the other factors in sanatorium treatment, i. e., rest, fresh air, diet and regular regimen, are receiving juster appreciation than heretofore. For the feeling seems to be gaining ground in the profession that it is not so much a particular climate which accomplishes results as it is fresh air, and plenty of it, in association with the other factors of modern treatment. 'Of late years it has come to be shown that the same methods can be successfully used at home or not far from home; that surprising results are obtained at comparatively low altitudes and in what were formerly thought to be climates unfavorable for cure (Bowditch).' So that well-equipped private sanatoria are now to be found within easy reach of many of our big Eastern cities, where most gratifying results are obtained" (Francine's *Book on Tuberculosis*, page 59).

"Formerly this or that climate was especially lauded for consumptives. The literature is voluminous, but lacks the evidence of scientific observation. At one time it was a warm climate, at another a cold, or, again, a high altitude, which was regarded as of most value.

"To-day we rightly regard no one climate as specific. Tuberculosis occurs in the warmth of the South as well as in the colder North, and upon lofty plateaus. Recoveries, too, are seen in every clime" (Nothnagel's *Encyclopedia of Practical Medicine*, "Tuberculosis," page 554).



"Climate exercises little or no protective influence over the individual against the acquisition of tuberculosis. Such a statement will strike many as surprising; but it is true. In Colorado, New Mexico, Arizona, and Southern California, places where invalids are sent in great numbers to recover from the disease, and where they often do recover, people acquire it initially and from the same causes as in other climates. Those climates are not protective *per se*, although they may be slightly so by the outdoor life they make possible. Of course, the resistance is greatest where the climatic worries are least. Altitude, that has been supposed to exercise such a power over tuberculosis, has none to prevent a person from taking it. Dryness of atmosphere probably has no protecting influence, whatever its therapeutic power may be. Regions of great sunshine and atmospheric diathermancy show a small proportion of acquired cases; but this is probably due less to any influence on human susceptibility than to the greater destruction of the bacilli in the air by the sun's rays.

\* \* \* \*

"Outdoor life is the most valuable treatment of tuberculosis extant; hence any place where the weather makes it easy for the patient to have with comfort this surpassing remedy all the time, is salutary for this disease. And I have no hesitation in saying that the major part of all the benefits of climate for consumptives is due to this one fact; no other influence is at all comparable to it"

(Norman Bridge's *Book on Tuberculosis*).

"We, as a people, have done less for the consumptive than any of the great modern powers, and the reason for it, partly, is that we have grown up with the fixed idea that such cases must go to the West and have a special climate to enable them to recover. It is this wrong idea which keeps back the local sanatorium movement in the large cities of the East, where hundreds of such institutions are needed to care for that large class unable to go off to special climates. Truly, climate is the least essential of the consumptive's necessities." (*J. O. Cobb, M.D., U. S. P. H. and M.H. Service, Los Angeles; N. Y. M. J., January 5, 1907.*)

I shall leave general conclusions to you, and hope that the information that I have gathered from the stores of our fathers and contemporaries, and which I have tried to present in a common-sense way, will assist in overcoming the prejudice in favor of special localities for the treatment of pulmonary tuberculosis—a prejudice which often blinds to much more important considerations and causes the futile consumption of a patient's resources, which, if more thoughtfully applied, to secure the simple advantages proven to be of signal use, might last till his malady became arrested in the home climate without the pains of exile or deception as to the real cause of improvement, which would then be undeniably more lasting, as the recognition of cause and effect best assures the continuance of the essential methods.



## SOME FINER POINTS OF ETHER THERAPY AS APPLIED IN ANESTHETICS.

By WILLIAM C. WOOLSEY, M.D.

REVIEWING a work called "Practical Anesthetics," published in 1907, among other strongly criticisable statements I find the following, under the caption "Semi-Open Method": "It consists in pouring ether from *time to time* on the sponge or gauze of some open form of mask." Later, "an attempt to anaesthetise a patient by means of ether poured on lint would result in the formation of much snow on the lint, the using up of several pints of ether, and would terminate in failure." (Boyle: "Practical Anesthetics." Oxford Medical Publications.)

Even granting that such statements are not common in our text-books relative to ether administration, yet the spirit of the remarks is noted everywhere, and detailed study of the therapeutics of ether, relative to dosage particularly, is to the mind of the writer extremely meagre, therefore, the excuse for the following:

Not forgetting the value of extended armamentarium which now aids the anesthetist or hinders him, as the case may be, not forgetting that the necessity for "Selection in Anesthesia" distributes the use of anesthetics over ether and chloroform, with or without  $O_2$ , and warmed,  $N_2O_2$  with  $O_2$  warmed, ethyl chloride, and even morphine-scopolamine, despite this, recognizing the marked frequency with which ether is used in this country compared with all other forms of anesthetic agent, one naturally wishes for more general knowledge on the part of hospital anesthetists of the finer points of its successful administration.

Ether should be considered by its users as a drug, administered to the patient through the respiratory m.m., to produce analgesia and narcosis, the efficiency of which depends on its administration to very nearly a toxic degree and, to properly handle which,

even greater knowledge of the signs of toxemia are necessary than any other form of therapeutic agent; particularly true is this on account of the close proximity of its therapeutic to its toxic dosage. And when I refer to toxic dosage, not alone the extreme which just precedes fatality is indicated, but any dosage which takes the patient into the territory of severe post-operative vomiting, or into a narcosis from which an hour is required to recover.

Whatever the method adopted to initiate an ether narcosis, as long as it conserves the patient's feelings and does not in any way induce  $CO_2$ -asphyxia (and I would emphasize this), whatever the method, no one will gainsay the advisability, to say the least, of continuing the anesthesia with an open form of mask, and a drop by drop application of the ether to the mask after said ether has been properly warmed as per Dr. Gwathmey's valuable suggestions.

Apropos of the initiation of the narcosis, the writer would express his strong preference for ethyl chloride on the ground of safety (at least 200 personal administrations), elimination of asphyxia, allowing the change to ether to be an abrupt one, convenience in carrying and administering, pleasure to patient. Five c.c. of kylene (Fries Bros.) is used for adults in a closed Stark-Ware inhaler, 2 or 3 c.c. on open mask for children.

Following the induction and change to ether, *minus husky orderlies*, the patient should complete the ether narcosis during mild preparation for operation, be it a laparotomy for example. Just at this point the anesthetist should begin, or rather continue, with acute observation the study of this particular patient's symptoms and reaction to ether administration.

The usual observations on the part of every tyro at this point are to wait



expectantly for two things, regular snoring, stertorous respirations, and a conjunctiva so insensitive that his nail-bespiked middle-finger end does not give any result but broken capillaries. He may look in the air between punches at the eye if he keeps his ear more or less on the respiratory sounds. These things he has learned from the example of his preceding interne, or from the best work on the subject of ether administration that he has consulted, which hold up in large type, *first*, that stertorous breathing and insensitive conjunctival reflex are signs of the surgical stage of anesthesia, and that failing respiration, widely dilated pupil, failing pulse, are signs of over-dose.

Depending upon such observations, though not often, to be sure, resulting in fatality, he follows the principle of going as near the edge of a precipice as possible without falling over, when the wiser thing to do would be to keep as far away as possible, consistent with accomplishing the purpose in view.

As a matter of observation during ten years of fairly constant use of ether, the writer has this point to bring forward, *viz.*; that between that point in surgical anesthesia where analgesia is present, satisfactory to the operator, and the stage usually sought by anesthetists characterized by stertorous breathing and dead conjunctivæ, there is a comparatively wide margin to the acute observer, and to keep a patient for an hour or more at one edge of that margin is therapeutics and at the other extreme is toxicology. To keep only in mind the symptoms usually cited as indicative of surgical anesthesia, referred to above, is to go as near the edge of the precipice as possible without going over, while to skillfully limit dosage so that analgesia and nothing more is attained, is to stay as far away from the precipice as possible. The error of overdosage has a double origin; first the general demand of the surgeon that whatever else happens to a patient he must not vomit or move on the table; second, a lack of familiarity

with what in detail the surgical stage of ether narcosis means. The first cause becomes active through the desire of the anesthetist to avoid, at any cost, the criticism of the operator, even to the degree of risking his patient, and the second, through insufficient study of the finer points of ether therapy.

To take the place of the usual stage of excitement, stage of primary anesthesia, and stage of surgical anesthesia referred to in most works, I would offer the following:

1. *Stage of Induction*, the excitement of which should be eliminated in most every case by proper mental state prior to beginning anesthesia and by use of some initiative such as  $N_2O_2$  or ethyl chloride, which stage of induction is characterized by the varied details of waning consciousness with its changed respiratory rhythm, and capillary dilatation with sweating; proceeding in depth up to the beginning of a second division, the

2. *Stage of Surgical Anesthesia*, characterized by (a) beautifully pink skin from full capillaries, (b) analgesia, not perfect at its very start, but becoming so in a few minutes without materially deepening the narcosis, (c) free inspirations, not in any particular obstructed by soft palate, even though it may vibrate coarsely as in light snoring; expiration at times through closed lips, but oftener not even thus made over noisy, (d) eye-ball slowly rotary on exposure to light or just beyond this stage; conjunctival reflex slightly present but needing no special investigation, particularly not by a finger end, (e) pupil as active to light as during consciousness and in a state just past primary dilation unless influenced by some medication such as morphine or atropine; and herein, *i. e.*, the pupil, does one find the greatest aid to maintaining the surgical stage of anesthesia and avoiding the toxic stage (*vide infra*).

In each particular subject careful observation during the stage of induction will be rewarded by knowledge on the part of the anesthetist as to the peculiar reactions of this par-



ticular subject's pupils to the ether vs. the light, and on this knowledge, supplemented by subconscious observation of the respiratory rhythm (I say "subconscious" because it becomes so with long experience), these two factors enable him to maintain an anesthesia which accomplishes all that the surgeon requires and at any time during the narcosis two or three minutes of fresh air brings the subject well within the bounds of recovery from the anesthetic, the exact time depending, however, on the length of the anesthesia, as well as the idiosyncrasy of the subject as to quantity required for its maintenance. The anesthetist must be familiar with this pupillary change, and in that familiarity he recognizes on the one hand the sudden enlargement of vomiting or returning consciousness, and on the other hand the marked contraction of the pupil which is the first sign of the next stage of ether narcosis and which is to be avoided when possible; between the two is his ideal. In case of morphine or atropine having been administered through which the pupil is contracted or dilated abnormally, the same rules hold good as to careful observation of the peculiar sequence of changes in the pupil from induction of narcosis to deep narcosis, but those changes are less marked and contraction appears earlier than without such drugs (by earlier is meant, much sooner relative to actual over-dosage) so that in morphine or atropine cases more reliance must be placed on respiratory rhythm and soft palate paralysis.

3. *Stage of Toxemia*, so termed because narcosis to this degree is maintained at the expense of unnecessarily large dosage and shows its toxic effect during the narcosis, by well marked duskiness of skin, increasing to cyanosis, and after the narcosis, by the greater percentage of post-operative vomiting and pulmonary disturbances. In considering this stage one must at once comprehend that in certain cases, because of special idiosyncratic resistance or special demands from the operator, the earliest part of it is necessarily induced every once in a

while during the narcosis, but only to the degree that is easily recoverable from by cessation of the ether drop for a minute or two. It is obviously characterized by intensification of those symptoms referred to as landmarks of the surgical stage, *viz.*: (a) analgesia of course continues absolute; (b) respiratory intake is to a considerable degree obstructed by relaxation of soft palate and glottis, producing a dusky color or actual cyanosis and very noisy, high-pitched respiration; (c) eye-ball set, with pupil in center of palpebral opening, and dead conjunctival reflex; (d) pupil strongly contracted or beginning to dilate secondarily, more slowly active to light.

Following this stage, continued administration of overdose produces the signs which have kept us heretofore from going over the precipice, *viz.*: Failing respiration and pulse, deeper cyanosis, half-open eyelids and the general picture of collapse; a condition of affairs not to be approached as closely as possible, as is so often the case, but to be removed as far as possible from, as should always be the scientific ether narcosis.

To maintain an ether anesthesia such as is here suggested, one must adopt some method which insures a minimum dose uninterruptedly administered, and never a maximum dose periodically administered as advised in the quotation used to preface this writing. Drop by drop means drop by drop, and to accomplish the desired end by any variation from drop by drop, except in rare instances, is practically impossible; and any anesthetist who has more than two seconds to look in the air with, during the first half hour of narcosis, is overdosing his patient, otherwise his patient would come out while he looks. Large doses given interruptedly do two things: *First*, they raise the concentration of ether vapor to an irritating degree thus damaging m.m.s. and disturbing the rhythm of breathing even to the point of producing asphyxia early in the narcosis; *second*, they give an anesthesia varying from the toxic



stage mentioned above to the *induction* stage, with vomiting or moving of patient on the table, to the disgust of the operator, at the same time rendering any *even* maintenance of the surgical stage proper impossible.

As a practical observation, seldom is the bottle lowered except for warming or change, from the beginning of its use through the first half hour's administration; after that time less ether is needed, therefore more often can it be suspended, but when resumed *the drop is again adopted* though the temptation is great, I admit, to the following of pouring tactics.

If such technique as the above fails to produce analgesia and narcosis, with a Ferguson inhaler for instance, and it is obviously necessary to concentrate the vapor and raise the dos-

age to the point of producing marked toxic symptoms such as absolutely paralyzed glottis and soft palate, with throat full of mucous, and cyanosis everywhere evident, long before analgesia appears, then I think that ether alone as the anesthetic of choice in this type of case is contra-indicated. Better use it as a modifier of chloroform narcosis.

As to what form of inhaler you use, as to whether you warm your ether in a bottle from which it is dropped or in the inhaler by some form of bath or thermophile, that is a matter of technical choice or convenience of handling, but whatever your choice of mechanism, success must depend on a detailed knowledge of the therapeutics of ether, its toxicology and limitations of application.

## THE SECONDARY ANEMIAS.\*

By R. ALEXANDER BATE, A.B., M.D.

Professor of Materia Medica and Applied Therapeutics in the University of Louisville, Louisville, Ky.

SECONDARY or symptomatic anemias embrace all deficiencies in quantity and quality of blood due to causes not primarily affecting the blood-making or blood-destroying tissues. Just as jaundice, ascites or fever are symptoms and not diseases, so it is with secondary anemia.

Yearly, the literature upon this subject has been abbreviated. Certain cyclopedias of practical medicine make no separate mention of secondary anemia. If patients are stripped, thorough physical examinations made, and laboratory reports secured upon the various excreta and circulating fluids of the body, a diagnosis of secondary anemia will be made less frequently. Even the essential anemias—chlorosis and pernicious anemia—are said to be fifty per cent. less frequent than formerly.

The causes of secondary anemia are either hemorrhagic or hemolytic. The diagnosis and treatment of anemia re-

sulting from hemorrhage of traumatic, typhoid, phthisical, renal, hemorrhoidal or other cause is so clear that we will consider only anemia due to hemolysis.

Blood poisons of any nature may cause toxic destruction of the albumins of the blood and tissues. A globinicial (Ewing) serum which diminishes the red cells exists. The sources of this globinicial agent may be very varied:

a. They may arise from within the system—perverted metabolism; may liberate organic acids and chemicals, harmless when physiologically combined, which become pathological under abnormal conditions. Auto-intoxication from any source may be expected to produce this globinicial agent. Uremia, cholemia and the toxemia of some pregnancies are especially to be mentioned. Disorders of nutrition characterized by disturbed nervous, digestive or assimilative activity are quite potent factors in females.

\*Read by invitation before the Henry County Medical Society, October, 1908.



b. Globinicial serum may result from extraneous poisons introduced into the system—mineral poisons, lead, potassium chlorate, nitrobenzole, and such vegetable poisons as ricin.

c. Certain parasites—hook-worms, tape-worms, intestinal parasites in general, and *plasmodium malariae*.

d. Infections—typhoid fever, syphilis, and all forms of sepsis.

e. Neoplasms—cancer, etc.

Mention of every cause of secondary anemia would include the etiology of disturbed anabolism and catabolism, since all functional derangements are now believed to be attended by some organic change. In symptomatic anemias the red blood cells are reduced both in number and size. The hemoglobin percentage is reduced and there is a deficiency in oxygen and nitrogen. Carbonic acid gas is relatively if not actually increased. Immature blood cells appear, and the bone marrow shows an absence of fat cells and an excess of erythroblastic tissue, causing the marrow to be redder than normal. Cabot takes this as an indication of overwork on the part of the hematopoietic system. Leukocytosis, myelocytes, lymphocytes, neutrophiles and achromatosis mark the anemia. The glandular system and the spleen are seats of alterations. Visceral changes, necessarily, are present, sometimes as a cause, sometimes as a consequence of the anemia. Cardiac changes result from deficiency in both blood quantity and quality; fatty metamorphosis, hypertrophy, and rarely endocardial alterations, are observed. The nervous system shows more changes than result simply from lack of nutrition, but they are too varied to be considered here.

The symptoms of secondary anemia vary with its cause, yet many symptoms due to anemia alone are common to all varieties.

Post hemorrhagic anemia usually appears quickly; it causes least distress, as absorption of the other fluids of the body quickly replaces the lost blood. If the hematopoietic organs are unaltered—as in traumatic hemorrhage—the quality of the blood is

quickly restored to normal. Likewise in malaria, hemorrhoidal, menstrual and other recurring causes of blood destruction, a sufficient intermission may elapse to allow of blood regeneration, and the anemia will be both slight and slow in its appearance.

Acute anemia may follow septicemia and very high temperature. (Leukocytosis is now believed to be one of the salutary actions of fever.) Secondary anemia in general is almost necessarily slow in its manifestation and chronic in its duration. "Functional insufficiency," due to the altered nutrition undoubtedly slowly leads to organic changes. The nervous system, perhaps, first warns the sufferer. Such symptoms appear as languor, headache, vertigo, faintness, vasomotor disturbances, insomnia, irritability, tinnitus, *muscae volitantes*, inability to concentrate the mind, forgetfulness, etc. Spinal cord disturbances and minor paralyses may be present. The gastro-intestinal system is deranged; dyspepsia, anorexia, bulimia often in children, nausea, vomiting, and constipation with occasional diarrhea, are frequently observed.

The cardio-vascular system always furnishes positive evidence of the condition in palpitation, dyspnea, arrhythmia, edema, and serous effusions, together with anemic murmurs. The anemic murmurs are often excellent indicators of the degree of anemia. These murmurs are heard with the first sound of the heart over the larger blood-vessels and the base of the heart. They are increased by the dorsal decubitus, and the basal bruit is loudest at the end of forced expiration (Babcock).

The genital system is especially prone to disturbances, such as amenorrhea, dysmenorrhea and even menorrhagia in the female, with impotence in the male. Clinically there have been described the anemia of lead poisoning, splenic anemia, infantile anemia, anemia due to intestinal parasites, septic anemia, and anemia associated with cancer. Idiopathic anemia is a term all clinicians are fighting.



The blood pictures of all of these anemias are slightly different, yet certain changes are constant. These may be summarized as: moderate red-cell destruction, polynucleosis, low color index, even absence of color, susceptibility to all sorts of staining where acid staining of the red cells is the rule, malformed and non-nucleated red cells, variability of color throughout the same cell, a few normoblasts and marrow leukocytes.

The diagnosis of secondary anemia is based upon such clinical manifestations as pallor, those symptoms described as referable to the nervous system, the gastro-intestinal, cardio-vascular and genital tracts, together with the detection of their causes, and the microscopic blood picture.

Post hemorrhagic anemia is easily detected. Intestinal parasitic anemia is recognized by the presence of eggs of the hook-worm or tape-worm in the feces. Anemia due to mineral or extraneous poisoning can usually be verified by the subject's history. Infantile anemia is most common in transmitted syphilis and in inanition.

Infection of very slight degree may produce anemia. Freymuth has pointed out the necessity in obscure anemias of examining the respiratory, digestive and genital tracts for even the mildest infections, which may be just sufficient to disturb blood regeneration. The anemia of cancer is accompanied by certain usually perceptible anatomical changes, together with changes in some of the fluids of the body. A chronic disease of any organ can usually be recognized if physical examination be made of the exposed subject. This should be insisted upon in every case. Differential diagnosis from the primary anemias is made positive by the use of the microscope.

The prognosis of secondary anemia is the prognosis of its cause, its duration and curability being absolutely dependent upon the cause. Individuals in whom the hemoglobin has reached eleven per cent. have recovered (Hayem). However, surgeons sometimes decline to operate upon patients whose hemoglobin is below forty per

cent. In a case recently coming under observation, the patient had undergone the usual sanguineous flow and tubal rupture of ectopic gestation. The hemoglobin percentage was about forty, but Drs. Butler and McMurtry waited a week, when the percentage was found to be about fifty. The patient recovered without operative or post-operative shock.

Removal or treatment of each individual cause of secondary anemia constitutes the main steps in the care of these patients. Diet, hygiene, clothing, rest and exercise must be as carefully arranged as the medicine.

Abdominal massage increases the polymorphonuclear cells and causes general leukocytosis (Ekgreen). Residence in high altitudes increases the number of red cells to 8,000,000 or more (Stewart) while the relative number of leukocytes does not change (Curry).

In traumatic or surgical anemia, blood regeneration is often complete in ten days without any treatment. When treatment is required, saline transfusion is specific in its effect. Thymol is now regarded as a specific in the treatment of uncinariasis and helpful in all intestinal parasitic anemias.

After the treatment of the cause of the anemia, animal extracts and hematinics are indicated. The animal extracts not only raise the opsonic index, but probably lessen toxic destruction of the albumin, and lessen the globinocidal action of the serum, as well as increase the potency of the hematinic agent in stimulating the blood-building structures.

In the selection of an animal extract for use in cases of any particular type of anemia, we must be governed somewhat by the therapeutic effects of the active constituent of the animal extract, as well as by the type of the anemia.

For instance, in syphilitic, strumous, fatty, glandular and splenic types of anemia in which the iodides are indicated, thyroid substance should give the best results. Suprarenal substance is to be preferred when circulatory



disturbances are marked and in malaria and that type of anemia in which arsenic would be used.

The infundibular portion of the pituitary substance has practically the same circulatory action as suprarenal substance, is probably better borne, having no deleterious action upon the blood-vessel walls, is perhaps more of a tissue-builder, and may be used when the phosphorus salts are indicated. It has been quite serviceable in my hands (a fluid extract of the infundibular portion of the pituitary gland, made by Parke, Davis & Co., has been used by me) in cases in which hemic murmurs existed. In dyspneas it has given more comfort than anything previously observed. Edema has quickly disappeared in the cases treated in this way, and normal sleep appears to be induced.

Bone marrow is a more specific hematinic and is to be used as we would iron. Lecithin seems most serviceable in the maintenance of solubility of certain solids normally held in solution in the circulating fluids, so is especially indicated in the metabolic anemias and those of old age. Ovarian substance has accomplished excellent results in anemia associated with the menopause and disturbed menstruation. Iron, manganese, arsenic, gold, mercury and phosphorus are only mentioned.

Acids appear most serviceable in microbic anemia, and alkalies in metabolic anemias. Some observers have reported *streptococci erysipelatis* as becoming non-pathologic on acid media; and it is well known that alkalies increase the oxygen-carrying power of the blood. Every case must be a law unto itself. Thus Loomis has shown that iron aggravates the anemia of chronic interstitial nephritis, and organic iron in some instances has been observed to lessen hemoglobin production. Until the individual cause of globinocidal serum has been determined we must rely in general upon

vaccines, salt solution, oxygen, and those agents which restore the opsonins.

Perhaps the cases of anemia most frequently coming before the physician are women at the end of the child-bearing period. Often the conditions at this time are such that we are not able to perceive any organic change, yet all the symptoms of anemia are marked. As atrophy of the internal generative organs takes place during the menopause, we would expect a somewhat normal leukocytosis. Any uterine or tubal infection, ulceration, lacerations, etc., are aroused by these so-called absorptive changes. The loss to the blood of a certain hematopoietic substance furnished by the ovaries, the blood regenerative functions no longer being required to supply the menstrual loss, etc.—all may play a part. Undoubtedly the tendency to the accumulation of fat at this time is due to a deficiency in the oxidizing process.

In all of these cases, in addition to the usual treatment of the anemia, local mechanical and antiseptic (surgical) treatment should be given the genitalia. Rest, not necessarily in bed, but probably by a change of scenery, etc., is found to be most beneficial.

The classic "honey-moon" begins an important period, and the end of the child-bearing period should be closed by a physiologic "harvest-moon" of rest.

In summary it may be said that the present means of making diagnoses are usually sufficient to determine the cause of most secondary anemias. The most important step is a thorough physical examination.

The management of secondary anemias for the most part is the treatment of the individual cause. Proper food, sunshine, rest of mind and body, elimination, oxidation, organotherapy and hematinics are usually sufficient when the cause is not cancer.

310 West Broadway.



# THE SURGICAL TREATMENT OF INTERNAL HYDROCEPHALUS.\*

By RUSSELL S. FOWLER, M.D.

**I**N internal hydrocephalus, from whatever cause, the free circulation of cerebrospinal fluid is mechanically interfered with. For the cure of this condition but two courses are open: either the free circulation of the fluid through its normal channels must be restored by removing the obstructive cause, or a new channel must be provided by which the imprisoned fluid can find its way to the subarachnoid space or be carried to a part of the body where its continuous absorption can take place.

The choice of which of these two courses to pursue will depend upon a study of the individual case in regard to the etiology and location of the obstruction. Before the results of the studies of Leonard Hill were made known (to whose studies concerning the pathology and physiology of the cerebral circulation it is owing that to-day we can approach the cure of internal hydrocephalus with something approaching certainty) many unsuccessful attempts were made to get rid of the fluid. Single and repeated punctures of the lateral ventricles were made even so far back as the Roman era. Aspiration with injections of iodine have been employed in some cases. In 1891 Quinke advocated single and later repeated lumbar puncture, withdrawing a small amount of fluid each time. In the same year Keen employed continuous external drainage in a single case; an interesting feature of this case being that the convulsions that followed the too rapid drainage of the fluid were allayed by the distention of the ventricle with warm boric acid solution. None of these methods met with success. Subsequent to Hill's investigations, attempts at surgical treatment rested on a firmer scientific basis. In

1898 Parkin trephined the occipital bone one inch below the superior curved line and to the right in order to free basilar adhesions and open the fourth ventricle; of four cases, two recovered. In March, 1898, Bruce and Stiles reported a case much improved after trephining the occipital bone in the median line just above the foramen magnum, tying the sinus in the falx, opening the dura and re-establishing the communication of the fourth ventricle. In the same year Mikulicz established drainage between the lateral ventricle and the subaponeurotic tissues of the scalp by means of a gold tube. The case died in six weeks. In a second case the same operator established drainage between the lateral ventricle and the arachnoid space by means of a drain of glass wool. In this case the disease was arrested. In October, 1898, Southerland and Cheyne reported two cases in which ventriculo-arachnoid drainage was established by means of catgut. In both cases the distention was relieved. One case died in three months from basilar meningitis; the second case was living six months after similar drainage was performed on the opposite side and was much improved. In 1903 Brewer operated on three cases, turning down an osteoplastic flap, opening the dura and forcing rubber tissue into the most dependent portion of the lateral ventricle, thus establishing ventriculo-arachnoid drainage. These cases died; one which lived six weeks showed a three-inch decrease in the circumference of the skull. In 1903 Nicholas Senn reported a case of subaponeurotic drainage in which the circumference of the head decreased two inches, the child dying on the ninth day. In 1904 Taylor established ventriculo-arachnoid drainage in six cases with a bundle of chromic catgut surrounded with cargile membrane:

\* Read before the Brooklyn Surgical Society and published in the *Annals of Surgery*, March, 1909. Abstract.



two cases were benefited: one markedly, physically and mentally, the other not so marked at the time of report as to afford much encouragement of subsequent improvement; three died as a result of the operation and one of intercurrent disease ten weeks after the operation. In 1908 Cushing, in a preliminary note, mentions twelve cases in which he established permanent drainage between the spinal canal and postperitoneal connective tissue, using a silver tube and first determining the continuity of circulation between the lateral ventricles and the spinal canal. Both laparotomy and laminectomy are included in the operation. Without going into detail he reports a considerable measure of success. He also states that two previous attempts have been made to drain the subarachnoid space into the surrounding tissue, one by Quincke, who made a blind incision following lumbar puncture, the other by Essex Wynter, by performing laparotomy for this purpose.

From a review of the foregoing methods and a consideration of the etiological factors it is clear that the chances for success in treatment depend entirely on employing an operation fitted to the individual case. Should the history of a case permit of the diagnosis of tumor so located as to occlude the fourth ventricle, following the demonstration of the arrest of circulation between the ventricles and spinal canal, a basilar exploratory operation is indicated even to the extent of removing half of the cerebellum, should this prove necessary in order to reach the tumor (Frazier). Should the tumor be irremovable the operation will have helped the patient temporarily by relieving pressure. Later, if desirable, ventriculo-arachnoid drainage may be employed. Following meningitis adhesions may result at the base, shutting off the foramina of Magendie, Key and Retzius, thus causing distention of all the ventricles, or adhesions about the cerebellum may close the lower end of the fissure of Sylvius or ependymitis may close one or both

lateral ventricles, or adhesion may occur at all these points. The first step in such cases would consist in determining whether or not there existed a communication between the ventricles and the spinal canal. If such is found to be the case Cushing's operation connecting the spinal canal with the postperitoneal connective tissue should be performed. If such is not the case, ventriculo-arachnoid drainage by Taylor's method may be done. If doubt is felt as to the causative lesion an exploratory basilar operation may be performed and the causative lesion removed, if possible, or, if not, Taylor's operation done later.

CASE I.—L. S., male, aged 8 months, parents healthy; sister, aged 4 years, healthy. Was a full term baby; instrumental delivery. When the child was 11 weeks old, the mother thought the head disproportionately large and consulted various physicians. The child was given mercury and potassium iodide for several months without effect. The head continued to enlarge, and the eyes became crossed. The child nursed regularly, and except for the increasing size of the head, the internal strabismus, and the lack of the usual mental development was healthy. The case was referred to me April 26, 1908, by Dr. Burton Harris. My examination showed a well-nourished strong baby, without paralysis, who supported his enormous head well. The head measured  $24\frac{1}{2}$  inches in the fronto-occipital diameter. The parietal bones were separated from each other and from the frontal and occipital bones. The baby did not notice its surroundings nor grasp with its hands. There was marked internal strabismus. Operation was advised. On April 28, at the German Hospital, the left lateral ventricle was tapped at Kocher's point and 30 ounces of fluid was drawn. This resulted in a falling in of the parietal bones, but the frontal and occipital bones were not much affected, the fronto-occipital diameter being reduced but one inch. A compressing and supporting dressing was applied.



Examination of the fluid showed it to be faintly alkaline, with a trace of albumin and a large amount of chlorides. The fluid rapidly reaccumulated and at the end of forty-eight hours the head had assumed its former proportions. A hollow needle was now introduced into the left lateral ventricle at Kocher's point and a second needle into the spinal cord between the fourth and fifth lumbar vertebræ in order to determine if there existed a communication between the spinal canal and the ventricles. Closure of the open end of the needle in the ventricle caused a faster flow of fluid from the needle in the spinal canal. Only an ounce of fluid was withdrawn by the spinal needle in order to avoid the possibility of an accident such as happened in one of Cushing's cases, when the withdrawal of a large amount of fluid by spinal puncture resulted in a hernia of the brain into the foramen magnum with subsequent death. Two days later under warm ether anæsthesia the abdomen was opened, and the body of the fourth lumbar vertebra trephined, first displacing the aorta to the right, a specially small quarter-inch trephine on a French drill handle being used. On removing the small button of soft bone, spinal fluid in a good-sized jet immediately flowed from the opening. The abdomen was then closed. The after course was uneventful. The head under compression with adhesive plaster decreased to  $22\frac{1}{2}$  inches, but by the tenth day had increased to  $23\frac{1}{4}$  inches. Tapping of the ventricle reduced the fronto-occipital diameter to  $22\frac{5}{8}$  inches; 15 ounces of clear fluid were removed. The vertex of the head did not present the dome-shaped appearance that was so pronounced before the operation. The internal strabismus was not so marked but still present. Discharged from the hospital May, 1908. On June 19, 1908, the ventricle was again tapped, as the head had increased to  $24\frac{1}{2}$  inches, and there was considerable tension at the anterior fontanelle. The strabismus was again marked. Eleven ounces were withdrawn.

A second operation for the purpose of introducing a silver tube to permanently connect the peritoneal and spinal cavities was advised. This was done September 8, 1908. Head measurement 24 inches. Under warm ether anæsthesia the abdomen was opened, the intestines displaced, the peritoneum over the aorta at its bifurcation incised and the aorta retracted to the right. No trace of the former trephine opening was seen. The body of the fourth lumbar vertebra was trephined into the spinal canal as shown by the escape of the spinal fluid, and the female half of a silver spinal-drain was introduced. (The spinal-drain consisted of two portions, one fitting snugly within the other, each  $\frac{3}{4}$ -inch long,  $\frac{1}{4}$ -inch calibre, with a  $\frac{1}{8}$ -inch flange.) A laparotomy sponge was placed in the wound and the patient turned back uppermost. The spines of the third, fourth, and fifth lumbar vertebræ were exposed and the third and fourth removed with part of their laminæ. The cord, quite well marked, was retracted with an aneurism needle and the male half of the drain introduced—one hand in the abdomen greatly facilitated this. It was not necessary to remove much of the laminæ, as by using retraction the canal could be quite well exposed. The wound in the back was closed. The tube was inspected through the abdominal wound and seen to be draining. The abdominal wound was closed. The after course was uneventful. September 12, 1908, head measurement  $23\frac{7}{8}$  inches; September 24, 24 inches. The strabismus was much less marked and the child evinced interest in its surroundings. There was an entire absence of tension in the fontanelles. The top of the head became flattened. Discharged September 27, 1908. Final examination December 1, 1908, showed: No return of strabismus; child active, mentally and physically; vertex flat; no tension; fronto-occipital measurement 24 inches. The disease seems to be arrested. The child is normal for its age in every way except the size of the head. This, however, has not increased in the past two months.



CASE II.—J. H., male, aged 5 months, parents syphilitic; referred by Dr. John Horni. The child was well until  $2\frac{1}{2}$  months old (but was not bright), when the mother noticed that the head seemed to be larger than normal and the eyes rolled from side to side. The head continued to increase in size. When seen by me September 7, 1908, the patient presented the typical appearance of hydrocephalus; there was nystagmus; no paralysis; the baby was very stupid. Operation was advised and the patient was sent to the Methodist Episcopal Hospital. On September 9, 1908, free communication between the ventricles and the spinal canal was determined in the usual manner. September 14, the lateral ventricles were tapped and 10 ounces of fluid withdrawn. On September 17, Cushing's spinal peritoneal anastomosis with a silver tube was done. September 18, 1908, the head had decreased  $\frac{3}{4}$  of an inch; September 20, the head had increased in size to  $20\frac{1}{4}$  inches. September 11, spastic flexion of the forearms and spastic extension of the feet were noted. September 2, the spastic condition continued. This was not relieved by ventricular puncture and removal of  $3\frac{1}{2}$  ounces of fluid. September 24, as the spastic condition still persisted and the baby was semicomatose, further operation was undertaken as a last resort. Puncture of the spinal canal above the tube level not being followed by any fluid, it was thought perhaps the pressure of the fluid in the skull had crowded the cerebellum into the foramen magnum and so shut off the free communication which had been previously demonstrated. The ventricles were punctured and 12 ounces of fluid withdrawn. Cushing's decompression operation was done on the base of the skull, removing half of the foramen magnum. The dura was incised, and the following condition disclosed; there was no obstruction of the foramen magnum; there was a deficiently developed brain held to each side of the skull by the lining of what would under normal conditions have been the walls of the ventricles; the cerebellum was rep-

resented by two masses about the size of a hazelnut to either side and several inches from the foramen magnum; there was no connection between the two halves of the brain save at the medulla; this large central cavity, representing all the ventricles, was smooth and contained about 20 ounces of fluid, part of which escaped through the opening in the dura. It was decided that nothing further could be done as the stoppage was in all probability a plastic inflammation of the spinal cord and membranes at some point above the tube. The wound was closed. The patient's condition continued bad and death intervened ten hours later. The fact of particular interest in this case is the occurrence of an adhesive inflammation above the tube in the spinal canal taking place some days after operation and preventing drainage. This has not hitherto been noted as a complication in these cases.

CASE III.—P. C., male, aged 9 months (referred by Dr. Aronson), was well until 6 months old, when he suffered from an attack of cerebrospinal meningitis. On examination the head was found enlarged, fontanelles distended, head measurement  $18\frac{3}{8}$  inches; baby apathetic, poorly nourished and unable to support the head. Operation advised and case sent to Methodist Episcopal Hospital. On September 21, 1908, it was determined in the usual manner that there existed no communication between the ventricles and the spinal canal. Several ounces of fluid were removed from the lateral ventricle. September 24, Cushing's basilar decompression operation was performed with the idea of freeing the adhesions around the cerebellum and base which interfered with the free circulation of cerebral fluid. The condition was demonstrated, the adhesions below, in front, and to the lateral aspects of the cerebellum freed, a probe passed along the fissure of Sylvius, and a free discharge of cerebrospinal fluid obtained. The dura was sutured and the soft parts about to be closed when the patient expired without warning.



## LONG ISLAND MEDICAL JOURNAL

A Forum for the Discussion of all Topics involving the Medical Profession and especially that of Long Island.

EDITOR-IN-CHIEF

PAUL MONROE PILCHER, A.M., M.D.

ASSOCIATE EDITOR

JAMES MCFARLANE WINFIELD, M.D.

EDITORIAL OFFICE :

386 GRAND AVENUE, BROOKLYN, N. Y.

Further Information on advertising page 3

MAY, 1909.

### THE ANGLO-AMERICAN MEDICAL ASSOCIATION.

TO the American physician who has sought post-graduate work in Berlin, Germany, during the past five years, the Anglo-American Medical Association needs no introductory note. To the student who is about to take up a post-graduate course abroad, the existence of this society should be made known, in order that he may take advantage of the work it has done, and be intelligently guided in arranging his work in advance.

The Anglo-American Medical Association was organized in October, 1903, by Dr. James H. Honan, an American who has practiced in Berlin for over twenty years. It was an outgrowth of the strong bond of fellowship which always exists in a foreign country between English and American students, accentuated by a natural desire to meet together and discuss the opportunities for work which were presented to them.

The object of the Association is to further the interests of all British and American physicians coming to Berlin for study, to advise them concern-

ing the post-graduate work in the university clinics and hospitals, and to assist them in finding comfortable quarters.

In a recent number of the *Providence Medical Journal*, Dr. H. G. Palmer says:

"The Anglo-American Medical Association has an ever-changing membership, the average, I should judge, being about fifty men. A catalogue of all courses and lectures, both private and in the University, is always available daily at the reading-room and Saturday nights at the meetings.

"One of the greatest benefits that the American student derives from the Association is the discussion of the various men who are offering courses for the erstwhile unsuspecting American to take. If the course is a catch-penny and a fake, you are sure to learn this fact at the Association. Even courses presumably good are at times condemned because the man giving the same is incompetent to impart his knowledge intelligently to others.

"At each meeting a lecture is given, usually by one of the German professors and in his native tongue. These lectures are most interesting and instructive, and are naturally up-to-date. The Association meets every Saturday evening at the Café Heidelberg, at 7.30 P. M."

Dr. Primrose, an English physician, writing in the *Canadian Practitioner and Review*, commends the work of the Association highly:

"The feature of the club is that at each meeting the members are asked to report for the benefit of their fellows any special clinic or laboratory work or special class that might be of service to others. This information is published by the secretary for the benefit of the members. There is a reading-room in connection with the club, where all the current journals are available, and through this society one can readily obtain information which may be of great value in aiding one whilst pursuing his studies in Berlin."

Vienna, Goettingen, and other university centers have similar associations, but nowhere are they as helpful and practical as in Berlin.



## THE OPTOMETRIST.

**D**URING the past year there have been a number of "near-medical" professions which have been dignified by the sanction of the State Legislature and placed almost on an equal footing with the true science of medicine. Prominent among these has been the profession of optometry, and, as has been expected, the optometrist is making the most of his opportunities.

An example of how he is presenting the subject to the public may be had in a recently received communication from H. MARTIN, INC., OPTOMETRIST:

"Now that the practice of optometry has received State recognition by the enactment of a law to regulate and govern the same by the Legislature of the State of New York, at its last session (Governor Hughes having on May 21, 1908, given his approval to the Optometry bill), it may not be out of place for us to suggest for your consideration some phases of this important law which have a direct bearing upon those most interested.

"The practice of optometry as defined by the law is 'the *employment of any means* other than the use of drugs for the measurement of the powers of vision, and the adaptation of lenses for the aid thereof.' In other words, the law decrees that the practice of optometry—*i. e., examining the eyes and prescribing glasses*, is to be considered a purely mechanical-scientific

work, and not in any sense a part of the practice of medicine.

\* \* \* \* \*

*"The practice of optometry, like dentistry (once any man's work), will thus be elevated and recognized as one of the learned scientific professions.*

"The treatment of eye diseases remains in the hands of the oculist, but for an intelligent, scientific examination of the eyes, and the prescribing and fitting of glasses for the correction of errors of vision and muscular anomalies, the public will look hereafter to the skilled optometrist, on whom the State has wisely placed the stamp of approval and the responsibility for this important work."

Two points are especially interesting to note. First, that optometry is like dentistry, and by the passage of a bill by the State Legislature has been elevated to the dignity of a "learned scientific profession." Second, that the oculist is fitted only to treat diseases of the eye, but "for an intelligent, scientific examination of the eyes" the public must look to the skilled optometrist. In the near future we may expect to see all shoemakers dignified by the title *Orthopedometrist*, and the practice of orthopedometry defined by law as "the employment of any means other than the use of drugs for the estimation of the powers of locomotion, and the adaptation of shoes and plates for the aid thereof."

---

## MEDICAL NEWS.

EDITED BY JAMES M. WINFIELD, M.D.

THE PUBLICATION COMMITTEE ARE ANXIOUS TO CONTINUE THE DEPARTMENT OF MEDICAL NEWS, AND AS IT IS ALMOST IMPOSSIBLE FOR THE EDITOR TO GATHER NEWS FROM THE REMOTE PARTS OF THE ISLAND, THEY WOULD EARNESTLY REQUEST THAT EACH MEMBER OF THE ASSOCIATION CONSTITUTE HIMSELF A SPECIAL REPORTER AND SEND TO DR. JAMES M. WINFIELD, 47 HALSEY STREET, BROOKLYN, ANY NEWS ITEMS THAT WOULD BE OF INTEREST TO THE READERS OF THE JOURNAL.

**The June Meeting**—The Entertainment Committee had hoped to announce in this issue, that the spring meeting of the Association would be

held at South Jamesport, but owing to the prohibitive charges for a special train, this place of meeting has had to be abandoned. The Long Island



Railroad will furnish a special train, seating 85 for \$354.22, and all over 85 would be obliged to purchase tickets at the regular rates amounting to nearly four dollars.

**Mutual Hospital**—This new hospital has recently been opened in Brooklyn. It is situated at the corner of Sumner and Lafayette avenues. The officers are as follows: President, Dr. William B. Brader, Vice-President, Dr. George L. Bartruff; Secretary, Dr. Gerard Kasper; Treasurer, Dr. Curtis F. Classen. The governors are Drs. Bartruff, Jansen and Bates. The hospital has twenty beds with a capacity for ten more. As it has no regular visiting staff, any reputable physician is allowed to send his patient to the hospital, and take full charge of the case while there. The fact that the hospital has been open only three months, has paid all expenses and has a surplus in the bank, speaks well for the success of the undertaking.

**Kings County Hospital**—At a competitive examination for internes, held April 10, 1909, the following candidates were selected: Drs. Conn, Magill University; Watkins, Johns Hopkins; Elsbach, Tulane; Atkinson, Magill; Benoit, Magill; Best, University of Pennsylvania; Trask, University-Bellevue; Weisender, Johns Hopkins; Green, Cornell; Yum, Cornell; Kramer, Syracuse; Henry, University of Pennsylvania; Smith, Physicians and Surgeons (Columbia); Richardson, Jefferson; Forehimer, University of Pennsylvania; Vanlangen, Syracuse; Swettzer, University-Bellevue; Riley, Harvard; Conway, Syracuse, and Goldstein, University-Bellevue.

**Brooklyn Hospital**—At a recent competitive examination held for internes the following candidates were selected: Drs. Budington and Itscovit, of Cornell, and Drs. Pabst and McClellan, of Long Island Medical College.

**German Hospital**—At a recent competitive examination held for in-

terne, the following candidates were selected: Drs. Hemmer, Syracuse; Meisse, Fordham; Best, University of Pennsylvania, and Stern, Long Island Medical College.

**Hudson Street Hospital**—Several vacancies are open in the Genito-Urinary Staff of the out patient department of the House of Relief, 67 Hudson Street, N. Y. Anyone desiring to study these cases is invited to address Dr. V. C. Pedersen, 45 West Ninth Street, New York City.

**Japan Honors American Physicians**—Among the thirty-three foreign honorary members of the Royal Japanese Neurological Society are three Americans, Dr. William Browning, of Brooklyn, Dr. Smith E. Jelliffe, of Manhattan, and Dr. H. H. Donaldson of the Wister Institute of Anatomy, of Philadelphia.

**Dr. Pilcher's Honors**—Dr. Lewis S. Pilcher, the Editor of the *Annals of Surgery* and an honored member of the Associated Physicians of Long Island, has been elected an Honorary Fellow of the Philadelphia Academy of Surgery.

**Hudson-Fulton Committee**—Among the prominent Brooklynites appointed on this committee, are the following doctors from Kings County. Drs. H. J. Brewer, G. W. Brush, J. J. Coughlin, H. B. Delatour, J. J. Fitzgerald, O. A. Gordon, John Harrigan, J. F. Kennedy, and T. R. Maxfield.

**American Proctologic Society**—The eleventh annual meeting of this Society will be held at Atlantic City, June 7 and 8, 1909. President, George B. Evans, M.D., Dayton, Ohio; Vice-President, John L. Jelkes, M.D., Memphis, Tenn.; Secretary-Treasurer, Lewis H. Adler, M.D., Philadelphia.

**The American Dermatological Association** will hold its 32d annual meeting at Philadelphia, June 3, 4 and 5, 1909. The President is Dr. T. C. Gilchrist, of Baltimore; Vice-President, Dr. W. A. Pusey, of Chicago; Secretary-Treasurer, Dr. Grover W. Wende, Buffalo.



**Courtesy to the Medical Profession**—The Hamilton, one of the most conservative clubs of Brooklyn, recently gave a complimentary evening to its fifty-seven medical members. Addresses were made by Dr. Morris H. Richardson, of Boston; Dr. Joseph D. Bryant and Dr. William H. Thompson, of Manhattan, and Dr. John A. McCorkle, of Brooklyn.

**Suffolk County Medical Society**—The semi-annual meeting was held at the Central Islip State Hospital, April 29th. The papers and discussions were of high order. After the scientific session, the members of the society and their wives were the guests of Dr. G. A. Smith, the Superintendent of the Hospital and his associates. The of-

ficers of the Society are: President, M. V. Heyman, of Central Islip; Vice-President, S. B. Allen; Secretary, Frank Overton; Treasurer, B. D. Skinner.

**Dr. James Cole Hancock** wishes to announce that from May first to September first he will occupy a temporary office at 64 St. James Place, and after September first his office address will be 135 Cambridge Place.

**Dr. Charles D. Scofield**, of 72 Lee Avenue, announces to the profession that hereafter he will confine his practise to diseases of the ear, nose and throat.

**Dr. E. G. Silverman** announces that he has opened an office at 1,138 40th Street, Brooklyn.

---

## TRANSACTIONS OF THE BROOKLYN SURGICAL SOCIETY

*Regular Meeting, December 3, 1908 (continued).*

---

### CARCINOMA OF BREAST.

DR. B. B. MOSHER saw the patient, a widow, 50 years old. The breast had been removed for cancer. Two years ago she consulted him, having noticed for several years a small lump like a marble in the upper and outer quadrant of the right breast. Family history negative.

*Examination* showed a small hard nodule in the right breast moveable, not far beneath the skin. No glandular involvement.

*Operation*—removal of small growth, and the microscope confirmed the diagnosis of non-malignant growth. Primary union.

One year after she consulted him for pain in the axilla which had been troubling her for several weeks.

He found many glands in the axilla enlarged, and a lump the size of a hen's egg in the outer and lower quadrant of the right breast.

*Operation*—Radical removal of breast and careful dissection of axilla. Wound healed by primary union.

Microscope showed tumor to be non-malignant.

About one year after the second operation two nodules appeared in and near the scar, and when removed were shown by the microscope to be carcinoma.

*Points of Interest*—First operation *non-malignant* clinical diagnosis confirmed by the microscope. The clinical diagnosis of the second operation was cancer *not* confirmed by the microscope, and the third a recurrence of the growth in the old scar in mammary region found to be *cancer* by the microscope.

*Result*—Patient's general condition at the present time good.

### CARCINOMA OF BREAST.

DR. B. B. MOSHER said this patient, 56 years old, consulted him October, 1902, for swollen arm with lump in breast, supposed by her to be an abscess which had been present for a year or more. Not much in the family history.



*Examination*—Arm swollen, right breast enlarged and the so-called abscess was easily recognized as a broken-down area of a carcinomatous growth. There was an extensive glandular involvement.

*Operation* was suggested. Owing to its advanced condition of the growth little hope was offered. Patient urged operation understanding this, so on November 26, 1902, he did a thorough operation, having some difficulty in saving enough healthy skin to make flaps meet. Drainage was employed.

*Result*—Wound healed by primary union, except points where drainage was employed. After removal of drainage complete union was obtained in a few days. No recurrence after six years, and the patient is now well and has very little disability in the arm.

*Points of Interest*—Now, over six years since operation, no recurrence, even though the disease was so far advanced. Has very good use of arm. X-ray was used for three months after the operation, but he questioned if the good result in this case could in any way be attributed to its use. Microscope confirmed the diagnosis of cancer.

#### *Abstract of Discussion.*

DR. A. T. BRISTOW called the original diagnosis in the first case in question. While, he said, the portion of the tumor under the microscope was not malignant, nevertheless there was a portion of it malignant. He had such a case two years ago, in which a lady presented herself with a tumor of the breast which looked like a fibro adenoma. There was no pig-skin appearance of the skin. He proposed to shell the growth out and have a frozen section made, and if the pathologist pronounced the disease benign, he would close the wound.

The pathologist sent over word the disease was benign, and he sewed the wound up when the pathologist sent word over that he had discovered another portion of the tumor which was malignant. The speaker then did

a major operation, and he thought something similar happened in Dr. Mosher's case.

DR. R. S. FOWLER had a case two years ago at the German Hospital, which he diagnosed as fibroma of the breast. The pathologist declared it was a fibroma. One year after the woman developed a carcinoma in the axilla. Upon going over the original section again, the pathologist said there was some change in the cells not quite typical, but there was no evidence of carcinoma. The sections of the second growth showed undoubted carcinoma.

#### **STRANGULATED HERNIA IN A BED-RIDDEN PATIENT.**

DR. J. P. MURPHY stated that this patient was a widow, aged 72 years, exceedingly stout. She was operated upon by the late Dr. Fowler at St. Mary's Hospital for a sarcoma of the right breast in 1895, when the speaker assisted him as house surgeon.

Six years ago she developed an umbilical hernia and never wore a truss. This condition interfered with the woman in her work, and she became sedentary in her habits, with a concomitant gain in weight. In August, 1906, she was brought to St. Mary's Hospital with a strangulated umbilical hernia. This condition relieved itself spontaneously in the ambulance by fistulous openings upon the external wall of the abdomen. Examination at that time showed a large mass in the umbilical region with fistulous openings and an eczema and dermatitis. The woman appeared to be moribund and no operation was attempted. Her condition gradually improved, the fistulous openings closed, and she was able to leave the hospital in about four months.

She was again brought to the hospital in February, 1908, with an impacted fracture of the neck of the left femur, where on account of her infirmities she has been bed-ridden in the dorsal position up to October 5th, upon which date the hernia again became strangulated, one might say spontaneously, inasmuch as her pos-



ture would exclude the ordinary etiological factors. Operation same day showed the hernia sac contained large and small intestines, but no omentum. On account of the adhesions the peritoneal coat was destroyed in several places, necessitating the infolding of the abdominal wall with Lembert sutures. A radical operation was performed with apparently good result. The woman had little or no shock following the operation. The result is apparently good.

In this case, the speaker said, the amount of surgical pathology is unusual.

1. The sarcoma of the breast; no recurrence reported after thirteen years.

2. The spontaneous rupture with recovery in strangulated hernia.

3. The second strangulation occurring while patient was in the dorsal position.

4. The marked absence of shock after operation.

The fracture of the femur has united.

#### CYST OF URACHUS.

DR. J. P. MURPHY said this patient was a man 54 years of age, carpenter, who had always enjoyed good health, when he began to have acute, colicky pains in the abdomen coming on nearly every day and relieved by rest in the dorsal position.

Examination revealed a rather tense abdomen, tender on pressure with spastic rigidity of both recti, apparently more pronounced on the right side. A tentative diagnosis of appendicitis was made, and the patient was sent to St. Mary's Hospital for operation.

An incision was made through the right rectus. Exploration disclosed the omentum adherent to the abdominal parietes walling off an inflammatory process under the umbilicus. This wound was closed and another incision was made through the um-

bilicus down to a small tumor, consisting of a sebaceous-like material with an odor of smegma.

The man made an uneventful recovery. Eight weeks later he again came under the speaker's care with symptoms of appendicitis, for which he was operated on at St. Mary's Hospital. An incision through the right rectus at the site of scar found the bowel agglutinated to the parietal peritoneum, the opening of which entered the bowel. This opening was closed and an intermuscular incision was made over the appendicular region. Here again the peritoneal coat of the bowel was agglutinated to the abdominal wall, with a consequent opening into the bowel cavity. Exploration through this opening disclosed a hard mass in the region of the appendix. The patient not acting well under the anesthetic, after sewing up this second opening into the bowel, further operative interference was temporarily abandoned. Primary union was obtained in the wounds. He remained in bed five weeks. He has had no further abdominal symptoms and works steadily as a carpenter.

#### THE SURGICAL TREATMENT OF HYDROCEPHALUS.

A PAPER WITH THE ABOVE TITLE  
WAS READ BY RUSSELL S.  
FOWLER, M.D.

##### *Abstract of Discussion.*

DR. A. T. BRISTOW said he had one case of drainage of the ventricles, which he did some years ago at the County Hospital in a boy of eight. In that case he operated by Keen's route, but the boy died four days afterward. He was blind and entirely comatose, so that it was not necessary even to give him an anesthetic.

The speaker said it seemed to him that the second case was a case of congenital porencephalus and not hydrocephalus.



# TRANSACTIONS OF THE BROOKLYN GYNECOLOGICAL SOCIETY

*Stated Meeting, February 5, 1909.*

The President, H. C. KEENAN, M.D., in the Chair.

## **TUMOR OBSTRUCTING LABOR.**

DR. J. O. POLAK stated that this patient was 26 years old, married, and a primipara. She had had a regular and uncomplicated menstrual history until the year before her marriage fourteen months ago, when she began to have pain in the left side. Soon after being married she had an attack of intestinal obstruction, due to an inflammatory condition in her left side, which continued for five days. She was then three and a half months pregnant. This inflammation subsided under rest in bed, oil enemata and the continued use of the ice bag. Her physician stated that from then on she had had no trouble with her bowels.

The speaker was asked to see her four weeks ago. She was at full term and had been in labor for thirty hours. The pains had been regular and strong. She had stood her labor well. The head was not engaged. Her physician, because of the slow labor, had called in another gentleman, who examined her, and determined the reason why the head could not engage was that there was something in front of it. Neither of these physicians had tried to put on the forceps, and when Dr. Polak saw the patient she had a cervix dilated to the size of a silver dollar, through which the membranes protruded. One could reach the cervix only by passing two fingers behind, above and to the right of the pubis. In front of the head, filling the entire cul-de-sac, was a fluctuating tumor. The diagnosis of incarcerated ovarian cyst was made, and the patient was removed to the hospital. Assisted by Dr. Humpstone the doctor did a Cesarean section and removed an incarcerated adherent dermoid from her true pelvis after doing the usual classical Cesarean.

An interesting point in this case was, that she showed all the evidences at the time of operation of her former intestinal obstruction by the extent of the sigmoidal adhesions to the tumor; these were separated without difficulty because of the natural softening that takes place in all adhesions consequent with pregnancy.

The patient made an uneventful and aseptic recovery.

This was the third case of tumor that had necessitated an operative procedure from above; all were incarcerated tumors, and two of them were dermoid cysts of the ovary.

## **CESAREAN SECTION WITH UNUSUAL COMPLICATION.**

DR. O. P. HUMPHSTONE said he wanted to place on record the history of a Cesarean section with an unusual complication in the puerperium. Mrs. 3776, Jewish Hospital, primipara, 24 years old; walked first when 5 years old; she had been in labor 48 hours, the membranes having ruptured 12 hours before admission; labor pains had ceased. Examination showed a full term uterus with a live child lying in L. O. A. position. The head was not engaged. Her external measurements were:

Interspinal, 22 c.m.

Intercristal, 25 c.m.

Obliques, 21 c.m.

Ext. Conju., 17.50 c.m.

Pelvic examination showed a promontory very easily felt. Her diagonal internal conjugate was a scant 9 c.m., an estimated internal conjugate of scant 7 c.m. The head was hard and presented a large caput through a two-finger dilated cervix. The absolute disproportion indicated Cesarean. She was submitted to the classical Cesarean section. Uterus was opened and a normal child, weighing



6 pounds, 12 ounces, was delivered, 48 c.m. long, with a sub-occipito bregmatic of 10 c.m. and biparietal of 9 c.m. Uterus closed with interrupted chromic catgut sutures with a layer of Lembert sutures over the interrupted. Wound closed with running catgut suture of peritoneum, and crossed silkworm gut sutures of the abdominal wall.

Patient made an uneventful convalescence except that she presented during the second 24 hours an unusual amount of nervous disturbance which we laid to the effect of the anesthetic upon an unstable nervous system. She had two general convulsions at intervals of 6 hours associated with mania. Bromide and chloral controlled this attack, and she is now perfectly well. Urine showed no evidences of kidney disturbances.

#### *Discussion.*

DR. J. O. POLAK said one point the doctor did not make note of was the peculiar shape of the child's head. The head was distorted and flattened on one side. He had not seen such a distorted head except in text-book illustrations.

#### **SPONTANEOUS RUPTURE OF UTERUS.**

DR. WM. P. POOL stated the case of a multipara in labor at term, attended by a competent and careful man who had diagnosed an occipito-posterior position. The first stage was, of course, long, and while waiting for dilation the doctor had gone into another room to sleep. He was called by the nurse after a time with the report that the patient was bleeding profusely. When last examined the head had been firmly pressed against the brim, but investigation at this time showed that the head had disappeared and that there was an alarming hemorrhage from the uterus. He recognized at once that the uterus had ruptured. The reason for the rupture was probably to be found in the fact that the patient had a very pendulous abdomen, the abdominal wall and uterus hanging far forward when she stood in the upright position, and even when lying on her back it was neces-

sary to have the uterus held upward to keep it in line with the pelvic canal. But in spite of this it would appear that the uterine contractions had caused backward instead of downward pressure of the foetus, and that the lower portion of the uterus had given way as a result.

The woman was in a desperate condition from shock and loss of blood. She was moved to the hospital as quickly as possible, and as bleeding still continued an abdominal operation was done at once. The rent was in the posterior wall, about five inches long, as high as the retraction ring would allow it to go, and foetus and placenta were both in the abdominal cavity. They were extracted and a rapid hysterectomy done, but the patient did not survive the operation.

The speaker called special attention to the pendulous uterus as a cause for this fatal accident.

#### **CONGENITAL ABSENCE OF INTERNAL ORGANS OF GENERATION IN TWO FEMALES IN ONE FAMILY.**

DR. W. B. CHASE said that a year ago he was consulted by Miss S., young lady of 20 years of age, of German parentage, who had never menstruated, and the physician who referred her to him said he had been unable to find any uterus. The external genitals were imperfectly developed. The labia were small and there was little growth of hair on the pubis, the rudimentary vagina consisted of a little pouch which was perhaps an inch deep. It was sufficiently elastic and the abdominal walls were not tense, so that it was quite easy by manual palpation to exclude the presence of a uterus, at least of any perceptible size, and there was no sign of any ovaries. She had a childish appearance, and yet the pelvic cavity in development was about that of the normal size. She was one of four sisters, two of whom were married and had children.

Another sister consulted him about six weeks afterward. She was about 28 years of age. She was a stout built, healthy German girl, and an examina-



tion revealed the same condition which he found existed in the sister—partial development of the external genitals and a lack of evidence of the presence of any uterus, and no evidence of any attempt at menstruation which would indicate the presence of ovaries.

The two cases coming in the same family had seemed to him to be a matter of interest.

#### NOTES ON ECTOPIC PREGNANCY, WITH REPORTS OF CASES.

A paper with the above title was read by Sewell Matheson, M.D.

##### *Discussion.*

DR. W. B. CHASE said the distinctions which the writer of the paper had made which indicated operation seemed to him were in the main sound and justifiable. There certainly has been an evolution going on in thought and practice, and the belief which was entertained some time ago that the life and safety of the patient depended on immediate operation, even though there was collapse, has been proven in many cases to be without sound foundation. As Dr. Matheson remarked, it resolves itself largely into a matter of personal judgment and experience, and every case must be a law unto itself. You cannot formulate a law to treat every case as falling under a certain category. Dr. Chase recalled a case in collapse in which he did not notice that the operation added to the collapse. He remembered another extreme case in which he operated. He found the bleeding vessels, controlled the hemorrhage quickly and recovery took place. As the abdomen was distended with blood he believed the case would have perished but for prompt interference.

The reader of the paper referred to his idea of what should occur in those cases in which some premonition of ectopic pregnancy is present, and we should be prepared to deal with the rupture promptly. He thought that was the second best thing to do. Diagnosis has been made in a number of cases prior to rupture. Baldwin, of Columbus, two years ago had op-

erated on 20 cases in which he had made the diagnosis before rupture and saved all of them. In his own experience he had seen but two, in which he made the diagnosis of ectopic pregnancy prior to rupture. In this case he operated just as the rupture was taking place and saved the patient. In the other, operation was not only refused, but the woman refused to go to the hospital for observation, and she died when rupture took place before her attendant could reach her home.

If the patient will not consent to immediate operation the next best thing is to place her in a hospital for observation, where the exigencies of the situation can be promptly met.

DR. R. L. DICKINSON asked where the placenta was located in the case referred to by Dr. Matheson, and was told in the outer surface of the uterine wall, and that the sac was made up of the bulging cornu of the tube.

The speaker said he thought the discussion tended, as the doctor had said in his report of these interesting cases, to the belief that a very large proportion of tubal gestation ends in tubal abortion. As he remembered the figures they were 70 per cent., and he thought that all are trying to differentiate these cases. When with the history of a missed period followed by uterine dribbling and some spasms of severe pain, with no temperature, with the patient in good condition, we find an egg in the cul-de-sac, and that egg swells for a while and has a little increase in size with a large attack of pain, and then the whole thing shrinks away as we keep the patient in bed; we are in doubt between a tubal inflammation and a tubal abortion, but there are some cases in which we can be reasonably sure. Dr. Chase had well said that these cases can only be left to go without operation in case they are in a hospital under constant supervision. Such a case in the country or suburbs that refuses to go to a hospital had better be operated as not safe to leave, as in possible danger of having a severe hemorrhage. He saw such a case in a big, strong, healthy



woman, who evidently had had but slight hemorrhage, in which the diagnosis was relatively easy to make—the condition was a typical one. Her own doctor had made an examination two or three months before, a man whose finger tips were educated, and through this thin abdominal wall he said he had been able to palpate a healthy uterus and tubes. There had been no history of infection. She refused to go to a hospital. At two o'clock in the morning two days after the examination she had a violent hemorrhage, and an operation did not save her. When operated on she was bleeding profusely, but had lost such a quantity of blood that nothing could be done to save her, though the operation was a fifteen minutes' laparotomy.

The speaker thought there was no such thing as safety in waiting in cases of tubal abortion unless the patient is where we can operate at once.

DR. J. O. POLAK said the statement had been doubted that this tube was resected. The tube was resected and the cornu excised and closed with continuous catgut sutures.

This report of the doctors brought up the question of when to operate in these cases, and it was a question that he did not believe was settled by any means. He was thoroughly in accord with the doctor that a case with a pulse below 100, which did not show any definite signs of internal hemorrhage but presented a tumor, was a case which can wait for operation. In those cases with an ascending pulse, it is better to operate on promptly.

Of the cases that are in extremis, there have only been two in the last eight years that were operated on immediately. One of these cases was brought in while he was operating on another patient, and the diagnosis of ectopic was made by the house surgeon and confirmed in the operating room. The patient was pulseless and an immediate section was made on her. She improved promptly on the relief of the intra-abdominal tension and tying off of the tube. Little attention was paid to the clots, but the abdomen was filled with salt solution.

In the treatment of these cases where we use saline solution to fill up the vessels, he was totally opposed to putting that saline directly into the vein, because we have already a tired heart, and the patient can adjust herself better and take up the fluid better either from the abdominal cavity or a Murphy irrigation with slow absorption than she can by any overburdening of her circulation with a saline solution.

DR. WM. P. POOL stated that the diagnosis of ectopic oftentimes cannot be made by the findings alone, but that a clear history of the patient's previous condition is necessary.

As to delayed or immediate operation, the speaker believed that he had never waited in these cases without regretting it. Repeated slight ruptures or attempts at abortion are followed by inflammatory process more or less severe, and this oft repeated results in adhesions which may seriously complicate the case, and besides there is the danger of continued hemorrhage. It seemed to him that to delay is very much like fooling with an inflamed appendix. The fact that there is a mild hemorrhage at present is no guarantee that it will not be severe a few hours hence, and there seems no good reason for not stopping the bleeding at once.

Even in the other variety, when hemorrhage is extreme and the patient rapidly passes into collapse, the speaker held that unless there were certain evidence that bleeding had temporarily ceased, and that shock might first be relieved, immediate operation is the proper thing. Part of the shock is caused by increased intra-abdominal pressure due to the sudden and profuse pouring of blood into this cavity.

Relief of this tension by incision often brings about decided improvement in the patient's condition. The trouble is that we can't determine whether hemorrhage is continuing or not.

One variety of cases in which it is safe and advisable to delay is that in which the rupture and bleeding occurs between the layers of the broad ligament, forming then a pelvic hæmato-



cele. Owing to the narrow limits of the cavity hemorrhage cannot be very extensive, and if the diagnosis can be made with certainty it is well to wait and do a secondary operation by vaginal section and drainage.

DR. J. C. MACEVITT said we must consider these cases from two standpoints—hospital and private practice. As Dr. Dickinson stated in residential practice, the proper method to pursue is to operate. The time of operation is a mooted point, but there is one thing that should be considered in all of these cases, and that is regarding the point that is so greatly contested. Dr. Dickinson alluded to tubal abortions. We get tubal abortions from six to eight, possibly ten weeks. In tubal abortion we do not have much hemorrhage, and these cases can easily wait. Statistics show they recover without any operation whatever. Rupture into the broad ligament is oftentimes of the kind in which absorption takes place and the patient goes on to recovery without the fact being known, but where we make a diagnosis of ectopic rupture we must consider the duration of gestation. If after the fourth month we are apt to have a rupture of a tube and not an abortion. At that period he did not believe it justifiable to wait, because the vessels are larger and the hemorrhage is always greater. In these cases he would not delay.

The question of salines: He was not in accord with the assertion Dr. Polak made. He said in those cases of extremis that an intravenous saline should not be given. He wondered if Dr. Polak meant in those cases of exsanguination of the patient whom we find in extremis, that he would rely upon an enema of saline solution or the previous filling of the abdomen with saline. In an exsanguinated patient would he not resort to intravenous injection?

DR. J. R. TAYLOR said the question of hemorrhage in the lower animals and in the human being are entirely dissimilar. Veterinarians do not hesitate to remove the ovaries from bitches, and they make no pretense of

tying the vessels. The vessels contract. In the human hemorrhage recurs if the ligature slips even on a small vessel, and the vessel does not contract.

Some years ago he assisted Dr. Joel Hyde in operating on a patient brought to the Memorial Hospital. A woman had been taken ill suddenly in the night. The physician made a diagnosis of ectopic, and during the night sat by the patient giving strychnine and digitalis and whiskey. The woman was perfectly exsanguinated. Dr. Hyde opened the abdomen and it was completely filled with blood. Passing his hand rapidly down to the uterus he found a tear at the junction of the tube with the right cornu and a fetus about two inches long loose in the abdomen and the arteries spurting vigorously. A clamp was put on both sides of the artery, the abdomen emptied of clots, fetus and blood. Dr. Clarence Hyde began to give an intravenous injection. The patient died next afternoon, because it was impossible with the tired heart and her exsanguinated condition to bring up the circulation.

The speaker said while occasionally we have cases of ectopic in which the tube bursts and the fetus remains in the abdomen indefinitely, it is extremely rare where they become localized and the patient becomes safe. On the other hand cases where there is a slow but continuous hemorrhage going on are comparatively common, and we do not dare take the chances on a woman that we would in the lower animals.

He remembered a case where the woman had called him in some thirteen months after the menses had ceased. There was a well-defined tumor in the abdomen. She was operated on with a diagnosis of ectopic. There was a mummified fetus measuring five inches in length. There had been an occlusion of the vessels in her case. She had recovered from the attack of the rupture and had gone along in an uncomfortable condition. She made a good recovery from the operation.



# LONG ISLAND MEDICAL JOURNAL

---

VOL. III

JUNE, 1909

No. 6

---

THE ASSOCIATED PHYSICIANS OF LONG ISLAND.

---

THIRTY-THIRD STATED MEETING, JANUARY 30, 1909.

## I

THE ORGANIZED CAMPAIGN AGAINST TUBERCULOSIS.

By LIVINGSTON FARRAND, M.D.

Executive Secretary of the National Association for the Study and Prevention of Tuberculosis and  
Professor of Anthropology at Columbia University.

---

THE basis of the campaign is commonplace to those engaged in medical work. The idea that tuberculosis is preventable has given rise to the attempt to prevent it, and after desultory efforts of various sorts, there has come about an organized effort which is engaging the attention of the medical profession and the laity as well, and in bringing about results from this organized campaign, there has developed a pretty definite program of operations, of which the chief features are these: We demand in any community where we attempt to fight tuberculosis that there shall be, first, a knowledge of the conditions; second, that there shall be adequate provision for the care of consumptives; third, that there shall be an organized effort directed toward the general education of the community with regard to the simple facts of the disease; and, fourth, we demand that there shall be co-operation in all of those measures, which tend toward better living and working conditions, because being a disease that has its roots in living and social conditions, any effort whether it be for better housing or working conditions, everything of that sort contributes to the diminution of the disease.

In bringing this about, certain things have come up, and the first thing, the knowledge of the condition, the essential feature is recognized everywhere as being an insistence upon compulsory notification and registration of tuberculosis. It seems to be a commonplace that if an official department is to deal adequately with a problem, they have got to know what it is. The step we have constantly in view is to place the responsibility for fighting this disease squarely upon the shoulders of the public authorities, however they may be constituted. If the public authorities are to be held to a competent dealing with a problem, they have got to know what the problem is, and they cannot know it without some knowledge of the conditions. The greatest obstacle to bringing this about is the medical profession. It seems almost incredible that in city after city where the attempt has been made to bring about compulsory registration, opposition has been met. Compulsory registration is in operation in practically every large city in the United States. There are a few who still hold out against it.

In New York State last year a very comprehensive and well drawn law was passed by the Legislature, which



applies to all the cities of the State outside New York, and we expect in the next year or two to test out the possibility of having registration carried out all through the State.

After these points the essential feature is the provision for consumptives. At the congress held in Washington the deliberations of that congress tended to concentrate on this point, that the essential feature in fighting tuberculosis was in an adequate provision for consumptives in institutions. That is based theoretically upon the proposition that the disease is infectious, and, therefore, preventable. We have either got to eliminate the infection or we have got to increase the resisting power of individuals. In the absence of any special immunizing agent, and in the face of the fact that the increase in the resisting power of the individuals of a community is a slow process to bring about and is one which will require an additional effort of many years, there remains the direct effort toward the elimination of the centers of infection, and it seems to be obvious if these centers are to be eliminated, we have got to bring about some sort of system of segregating consumptives. In the order of their practical importance, they are, *first*, the crying need of New York City and State is adequate provision for advanced cases. We have taken up this problem in fighting tuberculosis for the past fifteen years. There has been too much energy meted out in the establishment of sanatoria for the care of curable cases, but they are not as desirable as hospitals for the care of advanced cases of tuberculosis.

It is not hard to see why the reverse process took place, because if there is one thing which appeals to a legislature or philanthropic person, it is the idea of return, and the idea of establishing an institution where these cases can be taken and cured and returned to working conditions, is one that appeals so, that it is comparatively easy to get money for State Sanatoria, but it is almost impossible to get money for the care of the advanced or hope-

less cases—those who could be removed from their environments and end their lives in peace and comfort.

The first, the essential demand of to-day, in fighting this disease is to concentrate our efforts upon the attempt to get increased and adequate facilities for the care of the advanced cases. *Next* along this line is for the increase of provision for special tuberculosis dispensaries. That naturally is necessary for two reasons: of providing a means of getting an early diagnosis in those cases that do not call in regular physicians and providing a sort of center of education, because the educational effort that is sent out through these dispensaries is probably accomplishing more direct good than the educational effort in any other way; and *third*, the great need is for more sanatoria.

The course of operation should be properly the reverse of what has been the case. We should fight for hospitals, dispensaries and sanatoria. Sanatoria can be left to take care of themselves to a large extent. The effort should be concentrated in the other way.

The fourth feature that is demanded is the education of the community. There is a real need of voluntary association. We are pretty well agreed that we have to place the responsibility on the public authorities for fighting this disease. There is need for efficient educational methods for the prevention of tuberculosis, and in bringing this about there have been certain lines of effort, of which the most efficient one is the tuberculosis exposition. The first one was held in Baltimore in 1904, followed by New York in 1906, and since that time they have been kept moving in all parts of the country. Over 750,000 people attended the New York exhibition.

The idea with regard to this exhibition is that we shall have a way of presenting to the unreading and unthinking public these few simple facts. If you can get the people there and express a few simple truths that this is an infectious disease, that it is curable if taken in its early stages, and the



general doctrine of sound hygiene, fresh air, good feeding and living, you will have accomplished much.

In connection with this exhibition there can be all kinds of meetings and the preparation of public literature, which can be best accomplished through the aid of private voluntary institutions. With this there should be the co-operation of the laity and physicians. *Anything operated by physicians alone is entirely ethical and entirely inefficient. Any effort operated by the laity alone, in the line of public health, goes off on a tangent of some sort, has not the balance of those who can speak from an authoritative point of view, and it is necessary to have the co-operation of both sides.*

With regard to the more general movement, the co-operation of all those other social movements that would contribute to the diminution of tuberculosis, I will not go into.

The organized movement is of recent origin and comparatively everything has been done in the last ten years. The discovery of the bacillus was an important social matter. It had a bearing on social conditions and was not confined to the technical interest of the pathologist or clinician. In every country there is an organized movement combining the physicians and the laity in this preventive movement. There is now an international organization with headquarters in Berlin, which issues a journal for the publication of certain papers, and is a co-operative body, tending to direct the lines of operation in different countries. Independent of that are the national organizations, of which we have the national organization for the Study and Prevention of Tuberculosis, which has made its special effort the organization of other organizations, state and local, in all parts of the country. They have urged a special program in every community where the work is taken up. During the last year and a half the movement has increased with rapidity, and is now of such energy, that the chief need of the present situation is wise guidance rather than

additional stimulation. The prevention of tuberculosis is in the atmosphere; it is just the time to get things through, but it is just the time to take care this energy is not misdirected.

With regard to the establishment of hospitals, sanatoria and dispensaries, the situation is equally encouraging. In 1905 there were 115 hospitals or sanatoria or tuberculosis wards of existing hospitals. During 1905, 15 new ones were established: in 1906, 17; in 1907, 35; and during the eleven months of 1908, 71 new ones have been established, making a total of 253 as compared to 115 four years ago. Unfortunately the number of beds for tubercular patients in comparison with the need is shockingly small. The nearest authentic figures in the entire United States of the registered beds there are not more than about 15,000.

The number of cases of tuberculosis in the United States is over 700,000, probably nearer 1,000,000, and if we have 20,000 beds for these cases you can see the provision is practically *nil*. In New York we have more adequate provision for our consumptive patients than anywhere else in the country.

With regard to the dispensaries the situation is striking. In 1905 there were 19 special dispensaries in the United States; during that year 5 were added; in 1906, 11; in 1907, 51; eleven months 1908, 96; total 182 as compared with 19 four years ago. The momentum is along all these lines, so that I think there is every reason to suppose that the next five years will see us well equipped to carry through the operations we have in mind.

From the calculations of pathologists and social workers there is a diminution in the death rate from tuberculosis with the degree of provision for hospitals. As the hospital provisions increase the death rate decreases. Taking the statistics of Great Britain, France, Germany and the United States the contention is borne out. In this country where sanatoriums have been erected there has been a constant decrease in the death rate. In those countries where no



provision has been made there has been no diminution or a slight increase in the death rate.

During the last twenty-five years there has been a marked improvement in the development of preventive measures. We should, therefore, expect a diminution in tuberculosis corresponding to that, but notwithstand-

ing that we find a marked fall in the death rate, and probably the morbidity rate has been in direct co-relation with the degree of institutional provision. That being the case it seems to me to be the duty of the community to do what they can to bring about these adequate provisions.

---

## II

### WHAT THE CITY IS DOING AND PROPOSES TO DO WITH THE TUBERCULOSIS PROBLEM.

By the Hon. ROBERT W. HEBBERD.

Commissioner of Public Charities.

---

FROM my standpoint the city has never begun to do what it ought to do for this class of cases. In fact, it is only within very recent years that the matter has been taken up by the city at all in an earnest and practical manner. Until 1903 the city itself had no special facilities for the care of this class of cases. They were scattered throughout the general public hospitals, greatly to the detriment of the patients suffering with tuberculosis and to those suffering from other diseases. In that year, however, Commissioner Folks, who has always taken an advanced view with relation to the care of the sick poor, set apart a building on Blackwell's Island in connection with the Metropolitan Hospital for the special care of patients suffering from tuberculosis. He gathered into that building all the patients in the general public hospitals suffering from that disease. That building had capacity enough during his term and during the term of his immediate successor to care for these patients. It was not a building designed for the care of the sick suffering from tuberculosis, but was a building that had been constructed for the care of the insane, at a time when their care devolved upon the city, so that it was not a suitable building for the care of tuberculosis patients, but in view of the limited number it an-

swered the purpose very well. He also caused to be constructed a number of tents, in order that the incipient cases might get the benefit of the fresh air, which is more useful to them than medicine, but as the years went on, and as public sentiment required that more and better provision be made for the care of patients suffering from this disease, the facilities on Blackwell's Island became exceedingly inadequate. At the present time we are caring there in the buildings which Mr. Folks set aside for that purpose for over 800 patients with facilities adequate to the care of not more than 600 patients.

Early in my term I brought the matter to the attention of the fiscal authorities of the city, the Board of Estimate and Apportionment and the Board of Aldermen, with the result that it was determined to have on Blackwell's Island a modern up-to-date hospital for the care of advanced cases, and as Dr. Farrand has told you, that has been decided to be the most important thing in the prevention of this disease. It was clearly shown at the Washington Conference, that while the establishment of sanatoria for the care of incipient cases was an important thing in the treatment and control of this disease, the establishment of hospitals for the care of advanced cases was far more important.



In the administration of the public charities of the city we were in advance of that sentiment, because we had determined that there should be constructed on Blackwell's Island a modern up-to-date hospital for the care of such cases.

We have commenced the construction of that hospital. The foundations have been laid for two of its pavilions caring for 300 cases, and we expect during the present year to get the money to commence the work of constructing the other pavilions, so that in the course of two or three years we should have on Blackwell's Island a hospital for the care of advanced cases capable of providing for at least 1,000 in thoroughly sanitary up-to-date manner.

We also have our eyes on a building on that island, which we believe can be reconstructed so as to take care of at least 1,500 more patients, so that eventually within the next five years there should be located there an institution for the care of tuberculosis patients, capable of providing for at least 2,500 in the last stages of the disease. That building is the old workhouse. That workhouse is to-day the most beautiful building on the island. The city authorities propose to remove both the workhouse and the penitentiary from Blackwell's Island to make it into a park for the sick poor, and we hope to make over this building with larger windows, allowing the entrance of plenty of fresh air, for the care of this class of cases. Few can conceive of the benefits to the community in segregating patients with this disease when this building is provided.

The city has commenced the construction on Staten Island of a sanatorium for the care of patients in the intermediate stage. Part of the contract has been already let. Six buildings capable of providing for 600 cases are now in course of construction, and it is expected that within the next few months, the money will be forthcoming for the completion of the sanatorium, so that it will be able to care for fully 1,000 cases in the intermedi-

ate stages. That sanatorium is an institution planned on the most progressive lines. The buildings are arranged in a semi-circle, so that each building will get the maximum of sunlight and fresh air. It is to be fireproof, made of concrete reinforced construction, and I believe it will be the best sanatorium of its kind ever constructed in this country, or perhaps in the world, for the care of the sick suffering from this dread disease, so that you will see that the city of New York has not been merely squandering its money; it may have been guilty of extravagances or graft, as some state, but a large part of its money is going into the provision now being made for the sick poor of the city. The matter has had the earnest support of the city authorities, the Mayor and the Comptroller. The Comptroller has been a source of strength in securing for the department the means we need to make proper provision for the sick. He has gone with me to the island, has gone through the crowded wards of the Metropolitan Hospital, and has seen for himself the need for this further provision. It was an education and inspiration to him, and since that night he has been a foremost champion of our requests in the Board of Estimate and Apportionment. A week ago by means of this special knowledge he helped me to get an appropriation of \$150,000 to provide the heating plant and laundry for this new hospital on Blackwell's Island. I believe in giving credit to public officials where it is due, and the Comptroller has been most helpful in this respect at all times.

The city cares for those suffering from tuberculosis through the Department of Charities, but also is making further provision through the Department of Health. You know of the sanatorium for incipient cases at Otisville, that is being developed by public funds. That will become in the next few years a great measure for cure. Dr. Darlington is to be praised for the establishment of this work.

We also have the benefit of the



State Sanatorium at Raybrook. The city sends a large number of patients from New York. We are obliged to pay only a small proportion of the cost of maintenance of patients there. We pay five dollars a week, about half the cost, and the railroad fare to and from the institution, and then we have, too, the advantage of placing our patients in Seton Hospital. St. Joseph's, St. Vincent's and St. Peter's Hospital.

Brooklyn is far behind in its provision for this class of cases. We are able to take at the Kings County Hospital only a small number of the most acute cases, and as the ward becomes filled we are obliged to remove them to the Metropolitan Hospital. We are able to do that satisfactorily through the ambulance and boat, but we are not satisfied with the situation. We are doing our best to hurry the construction of these new hospitals on

Blackwell's Island, the new sanatorium on Staten Island, and we hope within the next two or three years these institutions will be fully able to take care of at least 1,500 to 2,000 cases.

It depends largely on the physicians themselves as to what provision shall be made by the city for the care of the sick poor. Commissioners come and go, but like Tennyson's "Brook," associations of this kind go on forever. You have the moral power and the moral force to bring about reforms, and as that power resides in you, you have also the duty to help to bring about the reforms, and that is a work to which I desire to invite your attention. You should work with the commissioners and other city authorities to bring about these great reforms, and yours will be the glory and honor for engaging in such a work.

### III

#### TUBERCULOSIS WORK IN THE BOROUGH OF BROOKLYN.

By Mr. JAMES JENKINS, Jr.

Secretary of the Committee on Prevention of Tuberculosis  
of the Brooklyn Bureau of Charities.

THE Committee on the Prevention of Tuberculosis of the Brooklyn Bureau of Charities can not hope for great success in its fight if it does not have the backing of the local physicians, and we feel that we have not obtained that yet. We trust we will secure the backing and the co-operation of the local physicians when they understand our work. Dr. Farrand has outlined a very good program which any committee on the Prevention of Tuberculosis could take up, and I will heartily second his speech and say, we are trying to do the things which he outlined.

When the Committee on the Prevention of Tuberculosis began its work in Brooklyn some months ago, it first endeavored to find out the conditions in Brooklyn. It found about

six thousand registered cases and three hundred beds for them; it found one dispensary in the heart of the city. Although Brooklyn covers more ground than Manhattan, it has one-twelfth as many tuberculosis dispensaries. It found that there were four hospitals to which cases could be sent, Kings County, St. Peter's, St. Catherine's and the Home for Consumptives. During the last week the Brooklyn Home for Consumptives has reopened its children's ward. The dispensary on Jay street is now open on Saturday mornings for children and there were about sixty cases there last Saturday.

As to the educational campaign in Brooklyn, doubtless all of you have seen the bulletins on the elevated stations and the notices on the backs of the transfers of the Brooklyn



Rapid Transit Company. We have had excellent co-operation from the press and pulpit. We had this winter what we called a "White Plague Sunday." The committee sent out postals asking the clergymen to preach on the subject and over one hundred ministers of all denominations responded. We have three tuberculosis classes. The one which meets at 1660 Fulton street is mostly composed of Jewish people and has a Jewish doctor who speaks both Russian and Yiddish. The results in these classes are encouraging from a medical standpoint. The classes are like small dispensaries which meet every week and study the whole subject of tuberculosis; how it is communicated and how treated. We have the members of the classes visited by nurses, and if we can help their condition by giving them diets, sleeping tents or other things, we do that.

One of the most important things we can do in Brooklyn would be to establish more tuberculosis dispensaries and a dispensary system. A tuberculosis dispensary is badly needed in Brownsville. Many consumptives from the east side of New York have settled in that district, where they thought the conditions were better and living cheaper. Of the number of new cases that come to the Jay street dispensary, probably 75 per cent. of them are from the Brownsville district. We hope to be able to establish a dispensary there through a private connection in the near future.

One of the things of which Dr. Farrand spoke, was the co-operation of the tuberculosis committee with the other organizations for the betterment of living conditions. We have excellent co-operation from the Health, Charities, Tenement and Educational Departments of the city. We give lectures in the night schools to immigrants, who are especially eager to learn. We co-operate closely with the District Visiting Nurses, which are supported privately, and have our own special tuberculosis nurse. We have recently made a combination with the charitable organizations, the Dis-

trict Visiting Nurses, the settlements and some churches, and are making an appeal to provide diets of milk and eggs for consumptives. This want has formerly been filled by the diet kitchen, but because of lack of funds it was necessary to give it up. We decided we could use the settlements and the offices of the Brooklyn Bureau of Charities as distributing centers and use the district nurses to take charge of the stations, and in that way cut off almost the entire expense of management. We give diets only to hopeful cases, because it would be useless and a financial impossibility to give to the thousands of advanced cases. If the case does not improve in three months the diet is discontinued, because we have come to the conclusion that the case is hopeless or that the diet does not come to the person who is ill, but perhaps to the patient's family.

Four thousand dollars was made by the Red Cross Christmas Stamps. This money will be put into a day camp for tuberculosis patients.

There are several things the physicians of the city can do to help in the work; one is to join the committee; another to volunteer to give lectures to churches, labor unions, clubs and various organizations all over the city. We cannot get enough doctors to give these lectures. We provide the stereopticon slides showing sanatoria and hospitals, good and bad living conditions, etc., and we are almost willing to provide the doctor with the lecture if he does not want to provide it himself. We have twelve physicians now who give these lectures and are in need of more.

The exhibit in New York was among the most effective means of education. We have such a means in Brooklyn. The exhibit was opened to the public at No. 10 Hanover Place, and after that will travel around the city. Doctors who go to this exhibit can explain to the people what it means. We have a stereopticon there and they could give lectures to the people. We also have a phonograph and as soon as there is an audience assembled it gives them



a short talk on tuberculosis. It is astonishing that there are thousands of people to whom it seems to come as a new idea that tuberculosis can be cured, and that the clean, careful consumptive is not a dangerous member of society.

I would ask this society to give their endorsement to the bill now before the State Senate for the repeal of the Goodsell-Bedell law, which now makes it almost impossible to establish private tuberculosis sanatoria and hospitals.

## THE TREATMENT OF ECTOPIC GESTATION IN ITS EARLY STAGES.

By HENRY C. KEENAN, M.D.

AT the present time there seems to be considerable difference of opinion among surgeons in regard to the treatment of tubal ruptures and abortions. Each surgeon contends for his own peculiar treatment with numerous arguments more or less weighty, points with pride to many successful operations as his justification and condemns as dangerous all dissimilar methods.

So more for the purpose of exciting discussion than with the intent of presenting anything new I offer this short resumé of the various opinions of different operators in this particular condition. I shall present the subject under three distinct heads any one of which merits a complete paper.

1st. When is the proper time to operate upon a ruptured ectopic?

2d. The toilet of the peritoneum.

3d. The value of infusions of salines before, during or after the operation.

The large majority of surgeons agree that all cases of ruptured ectopic pregnancy or tubal abortion with the occurrence of internal hemorrhage should be operated upon. There is, however, considerable controversy as to the time when the operative interference should take place.

Some advise operation immediately, even in collapse, while others would wait until the severe collapse has passed, a few even putting off the operation for a considerable period.

Without exception all the text-books

that I have consulted upon the subject look upon a patient with a ruptured tubal pregnancy as in imminent danger, and requiring immediate operation, even hastening the preparation of the patient to get her upon the operating table.

My quotations are all from text-books published during the last two years. Thus Kelly (*Operative Gynecology*). "In all cases of active hemorrhage the cardinal rule is to open the abdomen at once."

Crossen: (*Diagnosis and Treatment of Diseases of Women*, page 714). In rupture with free peritoneal hemorrhage. "In these cases immediate abdominal section is imperative and unless there is a hospital near at hand the operation must be carried out in the patient's house."

Gilliam: (*A Text Book of Practical Gynecology*, page 396). "After rupture the abdomen should be opened with all expedition compatible with aseptic precautions."

X. O. Werder: (*Bovee's Practice of Gynecology*, page 706). "No matter how collapsed the patient may be, an attempt should be made to save her life by, at once, without delay, opening the abdomen."

Ashton: (*Practice of Gynecology*, page 576). "As a rule the patient dies within a few hours after rupture unless operation is done." "The treatment of ectopic is operative under all circumstances and conditions. To operate without delay we must not wait for reaction from collapse or shock



to set in as the patient in the meantime may perish from loss of blood."

On the continent Werth Kronig and Doderlein are advocates of immediate operation. The reasons are thus summed up briefly by Kronig: (*Operative Gynecologie*, page 376). He grants that death rarely takes place as a result of the first hemorrhage but says that unfortunately it is impossible to prognosticate when the next hemorrhage will take place whether within an hour or after some days even when there has been a hematocoele formation. In the meantime a favorable time for the operation passes by and the second hemorrhage comes on with unexpected quickness and death from hemorrhage may occur very rapidly. So he is of the opinion that in all cases even in the heaviest collapse the operation should be immediately carried out.

Ladinski, in a review of 107 cases with only one death, says, "When we consider that these cases present such a multitudinous variety as to course and termination; that the hemorrhage may come from a very small vessel; that one cannot tell whether the hemorrhage has stopped; that the length of time that the patient is allowed to bleed causes more shock than the amount of blood lost; and that patients operated on quickly no matter how profound the shock or how great the hemorrhage react better than later cases, we see the reasons for immediate operation."

On the other hand a number of operators point to the fact that the primary hemorrhage in ruptured ectopic is rarely fatal and that the mortality of these cases is higher if operated on in the condition of shock than if they are let alone for a time and allowed to recuperate. Noble had a mortality of 42 per cent. in immediate operations and his good results in delayed cases served to bring his total mortality down to 11 per cent. In Zuntz's clinic in 18 immediate operations the mortality was 38.8 per cent.

F. F. Simpson thus sums up: "It is my firm conviction that the actual

facts do not warrant the conclusion that 70 per cent., 60 per cent. or even 10 per cent. of those who sustain a rupture must necessarily bleed to death. If this view be correct then the immediate operation should not be done until all conditions are favorable."

Stillwagen: "In the face of such dangers, i. e., opening the abdomen in profound shock, in how many cases would it be justifiable to operate. It has been determined that about 75 per cent. of all cases of ectopic terminate in tubal abortion. The product of conception is expelled from the fimbriated end of the tube, the bleeding is usually not great and the entire mass is quickly walled off by adhesions.

"There could certainly be no objection to delay in these cases. Of the other 25 per cent. a certain number rupture between the folds of the broad ligament which is the safest of all terminations. The balance probably not more than 20 per cent. rupture squarely into the abdominal cavity. It is for the sake of these cases that immediate operation is advocated. But there is a growing scepticism that a fatal termination in this contingency is inevitable or even probable or that the patient's greatest hope lies in immediate operation. Neugebauer had one death in 135 cases treated expectantly. Edward Ihm has published statistics as to the mortality when the expectant plan of treatment is employed and gives Winkels death rate as nil, Winter nil, Thorne one per cent., Hunter Robb in 20 cases one death. I am firmly convinced that patients with sufficient resistance to survive the immediate effects of rupture rarely die under appropriate treatment." He reports eleven cases with no deaths.

In Dr. MacEvitt's service at St. Mary's Hospital the method pursued in cases of collapse is to defer the operation whenever possible. The patient is kept perfectly quiet and watched for signs of further bleeding. If these do not occur, interference is delayed until the patient has rallied.



As it has happened in no case was it necessary to hasten the operation. All the cases rallied without exception. The entire number, 30 in all, were operated from 24 hours to 2 weeks after the primary hemorrhage and all recovered. At no time did we find free bleeding going on at the time of operation even in those cases operated on early. This is a point that should be borne in mind. In hospital cases we do not see the patients as a rule until some time has elapsed and in practically all the hemorrhage has ceased.

With regard to the free blood found in the peritoneal cavity at the time of operation there are three modes of treatment each of which has its advocates. Some leave all the blood in the cavity, others remove all, while a third class takes the middle course and removes only the part easily reachable.

Flatau and Frommel favor leaving all the blood in the cavity basing their method on the following arguments. The operation is more quickly carried out and the patient is gotten back to bed where heat and other methods can be applied. The amount of anesthetic and shock is much less. The blood is absorbed and raises the pressure in the vessels, while the constituents of the blood are absorbed and help to relieve the anemia which is present. (A form of auto-transfusion.) That the blood is absorbed is proved by the experiments of Robb and Vogel, the one on dogs and the other on rabbits. They found that, if an animal was bled into the abdominal cavity and the wound closed, on reopening the cavity in a few days the blood was found all absorbed. Flatau asserts that there is no danger of infection of the blood if the operation is carefully carried out and points to 17 cases without a death. Zweifel, Futh, Zuntz and Werth on the other hand remove all the blood. In Zweifel's clinic the patient is operated on in the horizontal position so that no blood will gravitate towards the diaphragm. All clots are removed and the free blood taken out

with sponges, after which the intestines are gone over thoroughly and search made for clots in the folds of the mesentery. Zweifel compares the blood left in the cavity to a powder magazine which needs but the spark to cause an explosion. He denies any value to the auto-transfusion theory and say, "That the blood pressure almost always rises after these operations is a fact well known to surgeons. As to the utility of the blood as a means of treating the anemia in these cases the danger is only during the first few hours when the oxygen carriers of the blood are low and the blood in the belly could hardly be absorbed rapidly enough to ward off this danger. The impoverished condition of the blood once the acute stage of danger is passed usually rights itself in a few weeks and the patient suffers but little inconvenience from it. That the decomposition products of the blood, even if aseptic, may be toxic, as shown by Brose and Werth."

Olshausen Braunfernwald, Kronig and Doderlein on the continent and the great majority of American surgeons remove more or less completely the accessible blood without going to the extreme of Zweifel. Some simply remove the blood in the pelvis with dry sponges and take out other large clots which may be seen, but do not disturb the intestines in doing so. Others take out all the blood in the pelvis and then wash out the cavity with normal salt solution keeping up the douching until the solution returns reasonably clear, taking care, however, not to disturb the intestines. Any clots therefore that may be caught in the folds of the mesentery are allowed to remain. Hayem and Lederer thus sum up the arguments for the middle course: "The extremists on both sides surely go too far. When a collapsed patient is operated upon we must watch closely the duration of interference and make it as short as possible. A small amount of blood does no harm so in difficult cases one need not be too thorough in removing all the blood."



This is the method we follow at St. Mary's Hospital. After the tube has been removed all the clots in the pelvis are taken out; then the patient is brought to the horizontal position and pitcher after pitcher of normal salt solution at a temperature of  $115^{\circ}$  is poured from a height of about one foot into the cavity. When the abdomen is full the patient is moved from side to side in order to dislodge any clots and more saline is poured in which has the effect of washing out the clots dislodged. The intestines are not, however, handled as we believe that the handling of the intestines in the thorough method practiced by Zweifel is more dangerous than the possibility of any clots remaining, not only from the shock induced thereby, but also the danger of intestinal paresis with the attendant danger of the passage of germs through the intestinal wall.

In 1821 Prevost and Dumas infused with pure water animals which had been bled without, however, being able to save the animals.

Latta in 1832 proved that he could put into the circulation an indifferent salt solution. He used the method in the treatment of cholera.

Then Cohnheim showed that a frog could be kept alive that had been entirely bled and a 75 per cent. saline substituted. About the same time Goltz brought out the idea that death from hemorrhage was due to mechanical causes and not to suffocation. That there were sufficient vital elements in the circulation but that owing to the disproportion between the volume of the blood and the area of the vessels, the heart worked as an empty pump and was not able to put the blood in motion. This gave a new viewpoint and a scientific basis for the use of saline infusion in hemorrhage. While Ponfick in his experiments showed the harmlessness of the method. And so was reached the present status of our therapeutics when the use of saline is regarded as the most valuable means which we possess for treating hemorrhage and by many as distinctly life saving.

However, lately there has been a different trend and there are some investigators who are inclined to call into question the extreme value which has been hitherto placed on the saline infusion, and also the fact that in animals at least the mechanical theory of Goltz holds good.

Animal experiments almost without exception show that the employment of saline infusions in bled animals is absolutely indifferent; that is if an animal loses a certain amount of blood he will live anyway whether saline is used or not while if a larger percentage of blood is lost the animals will all die without regard to the employment or non-employment of the infusion. Thus a series of experiments carried out by Oswald Feis on rabbits and dogs show the following: 1st, rabbits bled without the after-following injection of saline. In 17 cases the first 10 bled from one per cent. to 2.94 per cent. of the body weight all lived; those bled from 2.97 per cent. to 4.96 per cent. of the body weight all died showing that the fatal loss of blood for rabbits is about three per cent. of the body weight. Schwartz, in 13 animals, with the use of saline, found that the animals bled up to three per cent. lived and those beyond died, showing practically no important gain from the use of saline. This agrees with the experiments of Maydl, who said, "Saline infusion in rabbits is of no value when the loss of blood is over three per cent. In a loss of blood under three per cent. the infusion is superfluous as the animals recover without it."

Cohnheim, Bechamp, Baltus and Hayem show that fatal hemorrhage for a dog lies between the rather wide limits of 3.5 per cent. to 7.3 per cent. According to Von Maydl from 5.48 per cent. to 6.57 per cent. loss of blood are always fatal. Feis in his experiments on 19 dogs shows that loss of blood up to 5.18 per cent. of the body weight is generally not deadly but over 5.4 per cent. always is. In experiments on 17 other dogs in which the infusion was employed, the results were the same. His con-



clusions are that in dogs a loss of blood over 5.4 per cent. is deadly with or without infusion. Between 5.09 per cent. and 5.4 per cent. a certain number live, with or without infusion, indifferently. Under this all will live with or without infusion.

Practically all experimenters agree that when the threatening phenomena of hemorrhage allow judgment of a fatal outcome to be given, the power of saline infusion to rescue life is *nil*.

The important question now is: Can these experiments be applied directly to man? It does not seem as if such is the case because the loss of blood is much less easily borne by man than by animals and, due to the lessened power of contractility of the vessels in man, the disproportion between the volume of blood and the vessel space is more readily established and a mechanical death in the sense of Goltz more easily happen than in animals. In animals the threatening phenomena of hemorrhage do not occur until the specific elements of the blood have been so lowered that they are too few to carry on life while in man such is usually not the case.

So that in man there may be cases in which the infusion is life-saving, namely those as Ercklentz says of medium heavy losses in which the corpuscles are in sufficient number but the vessels are not sufficiently full to carry on the circulation. Severe cases cannot be saved by this means as the functions of all the organs particularly the nervous system are too dependent on the oxygen carriers to be able to sustain life long without their presence.

Doderlein and Kronig do not believe in the value of saline infusions in man. They say: "Even when the hemorrhage is stopped we are convinced of only a doubtfully favorable result from the use of salt infusion. It is true that the blood pressure is very soon raised and the pulse for a short time stronger but in high grades of anemia there is seen very soon an increased dyspnoea and a

threatening oedema of the lung. Our experiences after hemorrhage in gynecological and obstetrical operations have, corresponding to the newer animal experiments brought us more and more to the conviction that in a severe hemorrhage death occurs indifferently whether saline is infused or not and in the high grades of an anemia the infusion not only does not help but hastens the end.

Rossle has lately called attention to the fact that death may be caused by saline infusion in primary heart weakness with overburdened kidneys; Albrecht, to the blood changes particularly in the erythrocytes and advises slow infusions; Leopold showed that small doses of salt solution in rabbits caused irritation of the kidneys and that in nephrectomized rabbits the irritation in the remaining kidney was very plain. Jochman found that in uncompensated chronic and in fresh nephritis with edema, through saline infusion, the capability of salt excretion frequently became less and that with the sinking of the salt excretion often an increase of the oedema went parallel.

I have no wish to deny the value of saline infusion for it is certainly one of our most valuable heart-stimulants properly used; that is in cases of shock due to hemorrhage, and not as Crile justly remarks, in shock due to other causes. However, it should be remembered that it is not of itself all sufficient. So we must not when we have given a saline believe that we are doing everything possible for the patient to the neglect of other valuable measures.

I can see little benefit to be derived from repeated infusions as often practiced in ectopic cases with considerable loss of blood. If a patient has received 1-2 to 1 liter of saline and after temporary response to this stimulation again shows failing powers it is evident that the volume of blood has been supplied and that it is the specific elements which are wanting.

And in conclusion I think that it should be understood that a saline infusion is not the harmless measure



it too frequently is considered that it may be given haphazard. But there are very definite limitations as to heat percentage of saline; rapidity of flow, and total amount, which are all to be measured and given according to definite indications.

## REFERENCES.

- Ladinski.—*Am. Jnl. Obstet.*, Jan. 1908, p. 55.  
 Zuntz.—*Pflügers Archives Bd.*, 43, s. 303.  
 Simpson.—*Am. Jnl. Obstet.*, Nov., 1907.  
 Stillwagen.—*Am. Jnl. Obstet.*, Jan., 1908, p. 43.  
 Flatau.—*Munch. Med. Wchnschr.*, Jan., 1904, s. 42.  
 Robb.—*Am. Jnl. Obstet.*, July, 1907.  
 Zweifel.—*Munch. Med. Wchnschr.*, 1903, s. 1449.  
 Futh.—*Centralblatt für Gyn.*, 1905, s. 1313.  
 Olshausen and Braunfernwald, quoted by Kronig and Doderlein.

- Hayem and Lederer.—*Monatschr. für Guburt. und Gyn.*, Feb., 1907, s. 209.  
 Prevost and Dumas.—*Annales de Chem. et Phys.*, quoted by Feis.  
 Cohnheim.—*Virchow's Archives Bd.*, 45, s. 333.  
 Goltz.—*Virchow's Archives Bd.*, 29, s. 394.  
 Feis.—*Virchow's Archives Bd.*, 138, s. 75.  
 Schwartz.—*Berliner Klin Wchnschr.*, No. 35, s. 536.  
 Maydl.—*Wien Med. Jahrbucher*, 1885, hft. 3.  
 Bechamp and Baltus.—*Comptes Rendus*, Vol. 88, p. 1327.  
 Ercklentz.—*Zeitschr. für Klin. Med.*, Vol. 48, s. 71.  
 Rossle.—*Berliner Klin. Wchnschr.*, Sept., 1907, s. 1165.  
 Albrecht.—*Verhandlungen des Kongresses für innere Med. Weisbaden*, 1905.  
 Leopold.—*Zeitschr. für Klin. Med. Bd.*, 60.  
 Jochman.—*Medizinische Klinik*, 1906, h. I.  
 Crile.—*Am. Jnl. Surg.*, Vol. XXI., No. 4.

## WHEN SHALL GASTRIC ULCER BE TREATED SURGICALLY?\*

By RICHARD WARD WESTBROOK, M.D.,

Attending Surgeon, Brooklyn Hospital.

WHILE the somewhat heated discussion of the relative merits of the medical and surgical treatment of gastric ulcer is going on, I presume the chief desire of the general practitioner is to know what rules, if any, shall guide him in the line of treatment to be laid out for his individual case. Which case may he safely treat medically, which, without question, shall he turn over to the surgeon, and which may be left for tentative treatment where the responsibility may be thrown in part upon the patient himself as to which method should be followed? Improved methods of treatment have shown better results on both sides of late, although it is difficult to obtain accurate statistics on the medical side, especially. On the surgical side, continued experience has resulted in the formulation of better-defined rules to meet the

conditions found at operation, in order to secure permanent relief. The more frequent employment of excision of the ulcer in certain areas, and the less frequent use of gastro-enterostomy as a general curative measure in gastric ulcer, have been the chief features of the surgical advance, combined with increasing improvement in the technique of stomach surgery as a whole.

What varieties of gastric and duodenal ulcers are met with? Our classification of gastric ulcers is necessarily somewhat weak, as our knowledge of their etiology and pathology is still much limited. It seems unlikely that there is any single cause for gastric ulcers of all kinds. Whether the cause be infection taken in by the mouth or through the blood current, or whether it be thrombus, or embolism, or local trauma, or gastric hyperacidity, it is quite certain that some factor lowers the vitality of the tissues in certain regions of the stomach

\* Read before the Long Island Medical Society, March 2, 1909.



and duodenum, giving rise to ulcer formation. Clinically it is common to make the distinction of acute and chronic ulcers, but even here, the intermediate stages are so many, that it is questionable as to whether these varieties are so distinct after all. It is the rule, however, that the acute, round peptic ulcer is most frequently found in chlorotic young women. The chronic, irregular, thickened ulcer occurs more frequently in men and women of middle age. Duodenal ulcer is three times more common in men than in women, usually between the 30th and 40th year. The acute ulcer has sometimes been termed the "medical" ulcer, and the prognosis with medical treatment is good. Perforation and hemorrhage occasionally call for surgical measures. The chronic, indurated ulcer, and the cicatricial deformities produced by it is the form with which we have to do surgically as a rule. Tuberculous and syphilitic ulcers may occur in the stomach, but are rare.

The situation of ulcer is usually the pyloric region of the stomach, and the lesser curvature, often projecting down from the latter site upon the anterior and posterior wall like saddle-bags—the so-called saddle-ulcer. Ulcers of the duodenum are found within an inch of the pylorus usually, and are most often single, although stomach ulcers are often multiple. Ulcer tends to affect the posterior wall of the stomach more than the anterior, while ulcer of the duodenum is situated most frequently on its anterior wall, and is more liable to perforate.

The course of a chronic ulcer depends largely on its location. Ulcers of the pylorus and duodenum interfere with the motility of the stomach, and often give rise to stricture of the pylorus and consequent retention of food and dilation of the stomach. Large ulcers of the body may cause the curious hour-glass contraction, or even separate the stomach into several loculi. Chronic ulcer erodes the deeper structures of the stomach wall, and may have as its base the submu-

cosa, the muscular layer, or only the thickened peritoneum. Erosions into vessels produce hemorrhage, and those through the peritoneum perforations, which latter, however, are not patent in many instances because of peritoneal adhesions formed during the slow course of the erosive inflammation. Seen from the peritoneal side, the chronic ulcer presents a whitish, irregular scar, sometimes puckered, and at times adherent. These ulcers have been compared with leg ulcers, being acutely painful when open, and under rest healing and contracting-in, with cessation of the pain. In the same manner as with leg ulcer, the patient wishes to give up thorough treatment when the pain ceases, and activity and irritation cause all the symptoms to return. The long time required for cure of leg ulcer is applicable in even larger measure to the medical cure of stomach ulcer. Particles of food pressed into the ulcer depths give rise to pain in the stomach ulcer, as also does the muscular activity of the stomach walls, and the acidity of the stomach contents. One of the marked characteristics of gastric ulcer is the periodicity of attacks of pain, due to the partial healing of the ulcer in the intervals, the pain later returning in exacerbations lasting weeks or months.

Although the subject of diagnosis has been discussed by the author of the first paper presented this evening, I would like to add a few characteristic points in the histories of patients, which have impressed me. Ulcer cases usually are hungry, but will not eat because of fear of pain being set up. A case of cancer of the stomach on the contrary has usually little desire for food. Ulcer cases will frequently have acid eructations, or gnawing pain at night, and will get up to take bicarbonate of soda or some bland, diluent food, which reduces the acidity of the stomach contents. Not infrequently a patient with acute gastric ulcer will be found who has never once vomited during the whole course of the disease, and I have seen this where moderate degrees of obstruc-



tion existed. This goes to show that they will not ingest large amounts of food for fear of distress. Usually the characteristic tenderness of gastric ulcer is found by palpation of the epigastrium, even though food-pain be absent. In duodenal ulcer the pain is apt to be elicited to the right of the median line, and the food distress comes on several hours after the meals.

In making the diagnosis of a case of chronic gastric ulcer, one must lay great weight upon the history. The period of time over which the disease has existed is usually years, with its periods of relief or so-called "cure," until finally the symptoms become more continuous and aggravated, due largely to mechanical stenosis, deformities, and adhesions. Perforation or hemorrhage first cause the true diagnosis to become apparent to those less familiar with the disease after years of supposed simple indigestion. Great care must be observed in differentiating these cases from cases of gastric neurosis, neurasthenia, hysteria, etc.

#### SURGICAL TREATMENT OF CHRONIC GASTRIC ULCER.

The surgery of gastric ulcer covers a comparatively short period, although it has attracted much attention in the last half-dozen years. Previous to eight or nine years ago, gastric surgery in benign cases was performed only for the relief of starvation symptoms, due to pyloric stenosis. Various methods of pyloric divulsion and pyloroplasty were employed, mostly inadequate for permanent cure. Gastroenterostomy was also done, by the anterior method, with a long loop of bowel, and the Murphy button usually employed in making the anastomosis. The frequent occurrence of regurgitant vomiting, or so-called "vicious circle," after this form of anastomosis was a serious drawback to surgical cure. This led to the recommendation and employment of various complicated forms of surgical "plumbing" (as it has been designated), all requiring greater technical

skill and accompanied by a higher mortality than the present simpler method of gastro-enterostomy. A great advance was made some half a dozen years ago, when the "no loop" method of posterior gastro-jejunostomy first began to be commonly used, following the recommendation of Petersen, of Czerny's Heidelberg clinic. The use of the clamp and suture, in place of the Murphy button, was also a great advance in the technique of the surgery of the benign lesions of the stomach. Moynihan and others were most enthusiastic advocates of the employment of gastro-enterostomy for the cure of ulcer in all situations of the stomach without reference to pyloric obstruction, as well as for the treatment of acute hemorrhage. The symptomatology of chronic ulcer was well studied out by the surgeon, and it was recognized and brought to treatment far more frequently than ever before. The marked advance in its treatment led to the overzealous use of gastro-enterostomy in practically all cases where conditions admitted of its employment. In the meantime, X-ray experiments made by Cannon and Blake went to prove that while the pylorus was patent, the food current would not pass through the anastomotic opening; but showed that the stomach was a muscular organ which propelled the food toward the pylorus, and could not be converted into a bag, emptying itself by mere gravity. This observation upset the theory that the rest produced in the stomach by the opening in its most dependent portion would heal ulcer in any location, and it also accounted for certain operative failures to cure. Excision of ulcers to the left of the pyloric area of the stomach has gradually come to be advocated, and gastro-enterostomy done also, or not, according as deformity resulting produces interference or not with the progress of food through the stomach. While excision of the ulcer adds somewhat to the risk of the operation, its judicious employment has been the latest advance in the surgical cure of ulcer.



Increased knowledge of the conditions predisposing to cancer of the stomach shows chronic ulcer to form the base upon which cancer develops in a considerable proportion of cases. Cancer of the stomach is markedly on the increase, and it is reasonable to suppose that the excision of old ulcers will tend to reduce its occurrence. Graham has stated that a history of antecedent ulcer has been obtained by him in more than half the cases of cancer presenting themselves at the Mayos' clinic. My own limited observation has been to the contrary, a history of no stomach trouble whatever until the onset of the cancer symptoms having been obtained in most cases of the usual age of about fifty odd years. But my observations have also led me to the belief that ulcer symptoms more frequently precede those of cancer in the younger group of cancer cases, those nearer forty than fifty. That cancer often follows ulcer, however, there can be no question, but in just what percentage of cases it is difficult to estimate. In 180 cases of stomach resection done by the Mayos—I presume, including cases under both diagnoses—cancer on ulcer base was demonstrated in 54 per cent. How far gastro-enterostomy and cure of the ulcer will prevent cancer occurrence in the scar is also a matter of uncertainty at the present time, but the proportion of cases of cancer observed after gastro-enterostomy is at present small, except where there has been little doubt that early cancer had been mistaken for ulcer at the time of operation. Excision of a doubtful case is always the part of wisdom, as it is not possible at times to distinguish early cancer from ulcer at operation. Excision of ulcer of the duodenum is rarely required on the score of possible malignant degeneration, as cancer is almost unknown here, although ulcer is common. This remarkable rarity of the duodenum from cancer occurrence, if it be true that antecedent ulcer be such a large causative factor of cancer in the stomach, requires explanation, as I have recently suggested in another

paper, for it may hold the key to the cancer problem.

Another cause of failure to cure cases of supposed ulcer was due to gastro-enterostomy being performed on cases where the ulcer could not be demonstrated, it being supposed that chronic ulcer might be confined to the mucous coat and not capable of demonstration. Such cases, therefore, were often not ulcer at all, but probably gastric neurosis, etc., and not amenable to surgical treatment. There are certain cases, chiefly in nervous women who have suffered for years, where the diagnosis from chronic ulcer is very difficult. Only prolonged observation, with careful examination of the stomach contents and stools, will, with reasonable certainty, differentiate these cases. Moynihan says that no operation should be undertaken in the light of recent knowledge, unless ulcer can be demonstrated to the onlooker at the operating-table, and the Mayos practically coincide in this. Personally, I had a number of years ago a practically perfect result in a patient with a long history of chronic ulcer, with profuse hemorrhages, where I could find no lesion at operation, but, nevertheless, did gastro-enterostomy. The history of gastric ulcer in cases undoubtedly to be submitted to surgical intervention is orderly and consistent, the symptoms remaining the same and focalizing in the epigastric areas, usually alternating with longer or shorter periods of remission. Inconsistent, confused symptoms, at one time simulating gastric ulcer and at another time something else, are not likely to be gastric ulcer, or to call for surgical treatment.

The results of the surgical treatment of gastric and duodenal ulcers in the hands of the Mayos are as follows: Of cases of actually demonstrated ulcer, 318 in all, 234 have been traced. About 81 per cent. of these have been cured, 9 per cent. improved, 4.2 per cent. unimproved, and 6 per cent. have died from other causes in almost every instance. These statistics may be approximated by other careful operators. Of 100 cases op-



erated on, therefore, cure may be expected in 80 per cent. and improvement in 10 per cent. Five per cent. may remain unimproved. Of the cases cured, the results are immediate and satisfactory. Of the cases improved, it is often difficult to state just what the symptoms are due to, when there has been no mechanical fault with the operation, and no regurgitant vomiting. At times, symptoms apparently due to hyperchlorhydria persist, although gastro-enterostomy should ordinarily relieve this condition. Every patient who has been subjected to operation should have careful medical oversight until recovery is complete. A few cases have been reported of hemorrhage recurring and peptic ulcer of the jejunum developing after operation.

What risk must the patient run to gain this eighty per cent. chance of complete cure? Simple gastro-enterostomy is a very safe operation. Moynihan's cases of chronic ulcer without special complication, 205 in all, show but two fatalities, or less than one per cent. These were treated chiefly by gastro-enterostomy. The Mayos show 300 recent gastro-enterostomies with less than one per cent. mortality. Robson's recent statistics show 1.7 per cent. mortality and over 90 per cent. of complete cures. The Mayos believe that the mortality of the more complicated operations, including hour-glass contraction, etc., will not exceed three per cent., and will show 95 per cent. of cures. The statistics for cure given above include their earlier work, which does not represent the reduced mortality and better results of their late work, but should at least be duplicated by good operators of smaller experience.

On the other side, what is the percentage of medical cures of ulcer as shown by recent statistics? I think a liberal estimate of statistics of the after results of cases treated medically will show the permanent cures to be less than 50 per cent. Medical failures have been variously estimated from 11 per cent. (Friedenwald) to 85 per cent. (Welch). The average mortality Musser has computed as 8

per cent. Statistics of cure are of little value unless followed over a period of a year or more afterward, as it is characteristic of ulcer to present periods of absence of symptoms. As the Mayos have often jocosely asserted, they have not operated on a case until it had been cured nine times medically. The statistics of gastric ulcer, although not by any means exact on the medical side especially, show without question a preponderance of evidence in favor of the surgical treatment of gastric ulcer.

SELECTION OF CASES FOR TREATMENT.—What cases, then, should the medical practitioner turn over to the surgeon without question? Under this class come those cases where the symptoms and physical signs point to retention of food contents due to pyloric obstruction, dilatation of the stomach, hour-glass contraction, adhesions, etc. These conditions are not amenable to medical cure, and their treatment surgically is very satisfactory, with the possible exception of symptoms due to broad areas of adhesions which are likely to re-form. Limited adhesions, to the pyloric area especially, may be treated surgically with excellent results.

Cases of perforation should of course be immediately turned over to the surgeon for operation, and cases of severe hemorrhage should be placed under his care. While hemorrhages not immediately fatal usually cease spontaneously under careful treatment, I believe such cases are safest in the surgeon's hands. A transfusion of blood by the Crile method might save life in a desperate case, and careful surgical judgment should decide the question of operation directly for hemorrhage.

Cases of recurring hemorrhages, in spite of medical treatment, which produce secondary anemia should be turned over to the surgeon.

Cases which culminate in hemorrhage after dyspeptic symptoms over a long period should be treated surgically.

Chronic ulcer which resists medical cure for a period of two to four months of systematic rigid stomach



rest and dietetic treatment can only have a bad prognosis except with surgery.

Duodenal ulcer, if the diagnosis is reasonably sure, should be turned over to the surgeon, as the liability to perforation and hemorrhage is much greater.

Which cases may be considered as indicating medical treatment? All the early cases of ulcer, uncomplicated. Here should be the great field of medical cure. Most of the cases coming to the surgeon have a history of five to ten years of stomach trouble. In the early stages of the disease, conditions are far more likely to yield to systematic medical treatment. In the long-standing uncomplicated cases, I believe that proper medical treatment should always be given trial, and then sent to the surgeon if they do not yield, or if recurrence takes place. While the death-rate directly from ulcer treated medically is thought to be about 8 per cent. by Musser, the long continued suffering involved and the direct predisposition to disease brought about, must make the total of fatalities chargeable to ulcer much greater.

Which cases may be retained for tentative treatment and observation, letting, if need be, the patient assume a share of the responsibility?

There is a certain small percentage of cases already mentioned where it is very difficult to come to a final conclusion as to diagnosis. These are neurotic individuals, usually women, whose sufferings have extended over a long period, and in whom symptoms of chronic ulcer are confused with others not characteristic. Some of these patients will not submit to the use of the stomach tube, or persistent stool examination for occult blood. Some of them are anxious to undergo any operation which may promise relief from their sufferings. In such cases, I think it may be left with the deciding voice of the patient as to whether exploratory operation be done. If exploration shows no lesion, nothing further of surgical nature should be attempted. Other patients will show the positive symptoms of ulcer, but will not listen to any sugges-

tion of surgery. Such patients should be allowed to assume the whole responsibility, and given the chances of medical cure, in the absence of serious surgical emergency. Neurotic individuals with simple dilatation accompanying enteroptosis are not helped by surgical treatment.

As to the technique of operative treatment, it is hardly necessary for us to dwell upon it here. Gastro-enterostomy by approved methods will be all that is required in the majority of cases and is one of the most satisfactory operations in surgery. Excision of the ulcer-bearing area of the stomach—partial resection—will be unnecessary usually unless there be doubt as to cancer having already supervened. Excision should be done as a rule in ulcers located away from the pyloric area. Infolding of small indurated ulcers of stomach or duodenum, exactly as though they had perforated, is considered by some to be equivalent to excision.

In acute hemorrhage, if operation be thought wisest, the bleeding area should be sutured, or excised and sutured, and gastro-enterostomy may or may not be added. Moynihan has been an enthusiastic advocate of simple gastro-enterostomy in acute hemorrhage, but others have not had the same good results. In perforation, suture and infolding of the bleeding point is sufficient in most cases. The operation in perforation is successful in proportion to the sooner it is done after occurrence. Cases which recover after perforation usually have a complete cure, and acting on this suggestion, the Mayos have recently cut out the crater of the ulcer and closed the defect by suture. This has resulted well as far as the short length of time can show, and is a much safer procedure than the excision of the entire indurated area.

On the whole, the indications for the surgical treatment of chronic gastric and duodenal ulcer are reasonably clear. Careful observations will decide the diagnosis in most instances, and the same means, combined with adequate medical treatment, will show which case will require surgery.



# LONG ISLAND MEDICAL JOURNAL

A Forum for the Discussion of all Topics involving the Medical Profession and especially that of Long Island.

EDITOR-IN-CHIEF

PAUL MONROE PILCHER, A.M., M.D.

ASSOCIATE EDITOR

JAMES MCFARLANE WINFIELD, M.D.

EDITORIAL OFFICE :

386 GRAND AVENUE, BROOKLYN, N. Y.

Further Information on advertising page 3

JUNE, 1909.

## THE USE OF BACTERIAL VACCINES IN INFECTIONS

SINCE the epoch-making discoveries of Louis Pasteur and Robert Koch, the practical applications of which have saved so much to the industries of France, and accomplished so much for the relief of human suffering and life, a great deal of attention has been bestowed upon the bacteria in their relations to living tissues. Von Behring was the first to present to the world his diphtheria antitoxine, the discovery and production of which was based upon scientific deductions. Pasteur was endeavoring to immunize animals to anthrax at about the same time, by means of an attenuated virus. Following these early beginnings, Robert Koch announced his law of the patho-genesis of micro-organisms, which says that the successful invasion of an individual by them depends primarily upon three facts, *i. e.*, the virility of the given organism, the initial dose, and the resistance, or perhaps better, the lessened resistance of the tissues of the host. The necessity for explaining and harmonizing the facts already determined brought the discoveries of three great men, a Russian, a German, and an Englishman,

which, though accomplished independently, when taken together, go far towards a rational explanation of the phenomena of natural and acquired immunity. Eli Metschnikoff, of the Pasteur Institute in Paris, has shown that certain cells of the body, notably the white blood corpuscles, have the power to devour and destroy by digesting pathogenic micro-organisms; a phenomenon which he calls phagocytosis.

Paul Ehrlich, of the Institute of Infectious Diseases in Frankfurt a M., has given to us his wonderful Side-Chain Theory, which explains, on a chemical basis, by means of graphic formulæ, certain vital cell reactions, whereby bacterial and other toxins are neutralized, and the bacteria themselves destroyed. This theory comprehends the action of antitoxines, precipitines, agglutinines, and cytoly-sines.

A. E. Wright, of St. Mary's Hospital, London, closes this triangle of immunity phenomena with the promulgation of his theory of opsonic action: "Opsonine" being a substance derived from living cells under the influence of hypodermic injections of suspensions, or emulsions of dead bacteria into the tissues of the body.,

This emulsion he terms a vaccine, and the operation vaccination. It is thus seen to be totally different, both in theory and practice, from the so-called serum treatments which concern antitoxines.

The action of bacterial vaccines in living tissues is to stimulate certain of the body cells to the production of opsonine, which has the remarkable property of sensitizing living bacteria which possess little, if any, chemotactic power, in such manner that they acquire this power, and forthwith re-



act upon certain of the body cells and induce phagocytosis. This he proves by means of what he calls the "opsonic index." Very briefly, the taking of this index consists in comparing the phagocytic power of the polymorphonuclear leucocytes of a healthy person, with that of the polymorphonuclear leucocytes of an infected person, using in both cases the same species of micro-organism with which the individual is infected. The technic consists in striking averages of the number of bacteria taken up by the leucocytes of the normal and infected persons and comparing them. After vaccination the index of the vaccinated person is again taken, and shows greater or less increase in the amount of phagocytosis. This shows a distinct increase in tissue resistance, and is often the turning point in the struggle between the tissue elements and the bacteria. The consensus of present opinion seems to be, that bacterial vaccination is a definite addition to our means of coping with infection. In the writer's opinion this treatment may be summed up somewhat as follows:

In properly selected cases, it is perfectly harmless. It is not always successful, but in early cases usually is. It is often brilliant, even in severe cases of considerable duration. Acne, furunculosis, and abscesses melt away under it. The writer has seen recovery follow vaccination in numbers of cases of deep phlegmon, malignant endocarditis, and puerperal septicemia. The Germans hold that the vaccine should always be autogenous, that is, prepared from cultures from the blood of the infected person. This is ideal, but takes from four to six days, with consequent loss of much valuable time. Of course, the vaccine must

correspond in species with the infecting organism. The writer has successfully employed a polyvalent vaccine containing strains of all of the commonly infecting organisms, streptococci, staphylococci, and the colon bacillus. This saves time, and is usually successful. The reaction is definite in from three to four days, when the temperature either drops to normal or begins slowly to descend. At the same time, the general condition improves, the patient often remarking that he feels much stronger. Not uncommonly, the temperature rises during the first day after vaccination, but falls later. With the use of care and judgment in the selection of cases, and especially its prompt employment, before the tissues are saturated with toxines, and invaded by unthinkable numbers of parasites, vaccination is well worthy of trial and the prognosis is, in the majority of cases, good.

JOSHUA M. VAN COTT, Jr.

---

### THE CURATIVE ACTION OF LEUCOCYTE EXTRACTS IN INFECTIONS.

SINCE the discovery of Hiss, that the phagocytic power of leucocytes from infected persons was greater in some cases than that of the leucocyte of the normal individuals, many investigators have been studying the variations in the phagocytic power of the leucocytes.

Hiss conceived the idea of injecting extracts of leucocytes which would be readily absorbed and give added protection to the blood, serving to neutralize the poison or in combination with bodies already present in the blood having an inhibiting effect upon the bacteria. The results of this in-



vestigation of Hiss and Zinsser appear in the *Journal of Medical Research* of Volume XIX, in a series of four papers.

In a scientific review of these papers appearing in the *Albany Medical Journal*, the chief points of interest were as follows:

I. First paper, "*Curative influence of extracts of leucocytes upon infections in animals.*" The paper deals with experimental injections of extracts of leucocytes from normal animals into animals infected with the specific bacteria of those diseases in which so-called endotoxins are the assumed bacterial poisons. The results are reported after administration to animals in which there has been artificially induced staphylococcus, typhoid, pneumococcus, streptococcus, and meningococcus infections.

In *staphylococcus pyogenes* infections it is said that the animals which had received rapidly fatal doses subcutaneously could be saved by treatment with extracts even in small doses, especially when these were given intraperitoneally. When the intravenous injections were practised the results were not so favorable. In *typhoid* infections the author believes that the leucocyte extracts have a markedly beneficial modifying action on the course of the disease.

In *pneumococcus* infection the author concludes that an infection surely fatal in untreated rabbits becomes modified in the treated animal even if this treatment be delayed many hours. In *streptococcus pyogenes* infections the results obtained were equally favorable.

In *meningococcus* infections the results were encouraging, but not brilliant.

The second paper, "*Treatments of the precipitation of bacteria extractions by extracts of leucocytes.*" The chief conclusion of this paper was that the precipitates formed are probably not to be regarded as specific, and that the differences in the quantities of precipitates may possibly be indications of a more complete liberation of bacterial cell contents in the case of some organisms than in that of others.

The third paper gives the author's *Observations on the Mechanism of Protection by Leucocyte Extracts*. The more important conclusions in this paper are that after intraperitoneal injections of bacteria and leucocyte extracts, little if any bactericidal action is exerted, and they do not inhibit to any considerable extent the development of the bacteria used for the experiments. Also that the leucocyte extracts do not directly increase intraperitoneal phagocytosis, and lastly, that the beneficial effects which have been repeatedly shown are probably due to the faculty of neutralization possessed of the leucocyte extract toward certain toxic bacterial products.

The fourth paper, treats of the *Curative Influence of Extracts of Leucocytes Upon Infections in Man*. In *epidemic meningitis*, twenty-four cases were treated and these almost without exception showed improvement. The improvement was very prompt. Eight cases died showing a mortality of 36.4 per cent.

Reviewing the entire series of cases as presented, the method of treatment does not offer any marked improvement over other methods already in use.

In *lobar pneumonia* a fall of temperature was noted in all the cases treated, but no very striking lasting effect is reported.

From personal experience the reviewer would add that there is some value in the theories as worked out, but that as yet the method of treating infections by the injection of leucocytic extracts has not been proven as sufficiently valuable to warrant its adoption, excepting as an adjunct to our other methods of treatment.



## MEDICAL NEWS.

Edited by JAMES M. WINFIELD, M.D.

**The June Meeting**—The Entertainment Committee announces that the June meeting will be held at the Great South Bay House, Blue Point, June 26th. A special train will be run from Jamaica, leaving there about 1.15 P.M. The cost, including dinner and railroad ticket, will be three dollars and fifty cents.

The Committee is anxious to have as many as possible go with their autos, Blue Point being only about fifty miles from Brooklyn. The Scientific Committee will kindly note that Mr. Singer of the hotel, has provided innumerable pleasure boats, and that the fishing and bathing is first class and very attractive. A very enjoyable meeting is promised.

### **Long Island College Hospital—**

The semi-centennial of the Long Island College Hospital was appropriately celebrated by a banquet, in the banquet hall of the Academy of Music, June the second. The speakers of the evening were Dr. John A. McCorkle, the President of the College, Hon. St. Clair McKelway, State Regent, Hon. Chauncey M. Depew, U. S. Senator, Samuel L. Clemens (Mark Twain), and F. Hopkinson Smith, the famous authors. Each present received a silver medal as a memento of the occasion. The success of the celebration was due to the officers of the Alumni Association, Dr. S. J. McNamara, president, Dr. Rathbun, vice-president, Dr. Moses, secretary, and Dr. J. S. Read, treasurer.

**Dr. Charles B. Bacon**—The efficient treasurer of the Associated Physicians of Long Island, who for five or more years was Superintendent of the Cumberland Street Hospital, Brooklyn, has accepted the Superintendency of the City Hospital, Blackwell's Island. The new position is one of greater scope and responsibility. How the doctor will fill the requirements is in a measure foreshadowed by the testimonial reception recently given him by the consulting and visiting staff of the Cumberland

Street Hospital, at which time he was the recipient of a gold watch from the staff, a marine painting from the nurses, and a pair of candelabra and a clock from the employees. Dr. M. B. Jones, deputy superintendent of the Kings County Hospital, succeeds Dr. Bacon at the Cumberland Street.

**South Shore Hospital**—This new hospital, situated in the Woodcleft section of Freeport, was opened for the reception of patients on April 19th. That a hospital has been needed on the south shore of Long Island is demonstrated by the fact that this new hospital is not only full, but that patients have had to be refused for want of room. The managers are preparing plans for the erection of a larger and more adequate building. The hospital is especially intended for the care of patients from the south side of Long Island, and any physician of that section can send in patients for hospital treatment, and if he so wishes can take charge of the case while there.

The officers of the association are Dr. William B. Savage, of Islip, president, and Dr. S. E. Moore, of Bay Shore, secretary.

**Nassau Hospital**—At a recent meeting of the Nassau Hospital Association the old board of directors were re-elected, consisting of Mrs. O. H. P. Belmont, Mrs. H. H. Cammann, Mrs. John Lewis Childs, Mrs. James R. Willets, Mrs. William H. Zabriskie, Thomas W. Alderson, E. D. Morgan and G. Byron Latimer.

Mrs. Herbert L. Pratt was elected to serve as a director in the place of Mrs. Philander R. Jennings, resigned, her term to expire in 1911.

The report of the treasurer, Thomas F. Albertson, showed that the deficit this year is only \$11,386.65. In an attempt to raise \$75,000 to pay for and maintain the service building, which was built last year and cost \$40,000, \$51,144.95 was obtained.

**Sewage Disposal Bill**—The trustees of Sag Harbor have been notified



by the State Board of Health, that the sewage from the village must not be run into the bay, unless first purified. This order is intended to protect the oyster industry, there being thousands of bushels of oysters under cultivation in Shelter Island Sound. It is hoped that the sewage disposal law will be rigidly enforced throughout the whole of Long Island, not alone for the interest of the oyster growers, but more especially for the health of the community.

**Dr. George H. Dowsey**—The JOURNAL notes with pleasure that the referee granted Dr. Dowsey, of Great Neck, the full amount of his bill with interest, due him for professional services rendered to the late Bloodgood H. Cutter, the "farmer poet of Long Island."

**The Dr. William T. Bull Memorial Committee**—Dr. Louis N. Lanehart, ex-president of the Associated Physicians of Long Island and a member of the Publication Committee of the JOURNAL, has the distinguished honor of being the only member of the Bull Memorial Committee of Long Island.

**Dr. Ordronaux's Bequests**—Under the will of the late Dr. John Ordronaux, of Roslyn, Dartmouth College receives \$30,000; the University of Vermont, \$10,000; Trinity College, \$10,000; Nassau Hospital Association of Mineola, \$6,000; the Society for the Relief of the Destitute Blind of New York City, \$5,000; the Episcopal Diocese of Long Island, \$5,000; the Children's Society of New York, \$5,000 for the use of its summer charities; the George Washington

University of Washington, \$5,000; the Columbia Law School, \$5,000 to be used for yearly prizes; and the Episcopal Diocese of New Hampshire, \$5,000.

**Dr. Gerard Kasper** wishes to announce his removal on May 1st, to 714 Macon Street, near Ralph Avenue. Tel. 2595 Bushwick.

**Dr. William A. Northridge** announces his removal to 402 Washington Avenue.

**Dr. Walter H. Ross** announces his removal to 215 Jefferson Avenue, near Nostrand Avenue. Tel. 5596 Bedford.

**Dr. Alexander L. Anderson** has removed his office to 467 Ninth Street.

**Dr. Walter A. Sherwood** announces the removal of his office to 289 Garfield Place, between Eighth Avenue and Prospect Park West.

**Dr. J. Wheeler Smith** announces the removal of his office to 685 St. Marks Avenue. Tel. 5267 Bedford.

**Dr. Roger Durham** wishes to announce his removal to 322 Park Place.

**Dr. Eliot Bishop** wishes to announce his removal to 46 Gates Avenue.

**Dr. Robert O. Brockway** wishes to announce that at present his office address is 207 St. James Place, after October 1st it will be in the new Physicians' Office Building, Hanson and South Elliott Place.

**Dr. F. L. McCrea**, of Port Jefferson, wishes to announce that from June 15th to September 15th, he will have daily office hours at Shoreham.



MEDAL COMMEMORATING THE FIFTIETH ANNIVERSARY OF THE FOUNDING OF THE LONG ISLAND COLLEGE HOSPITAL.



# TRANSACTIONS OF THE BROOKLYN PATHOLOGICAL SOCIETY

Edited by C. G. CRANE, M.D.

Stated Meeting, January 14, 1909.

The President, J. O. POLAK, M.D., in the Chair.

## MULTIPLE CYSTIC SPLEEN.

ROYALE H. FOWLER presented a specimen which was removed by Dr. B. Farquar Curtis, April 10, 1908, at St. Luke's Hospital. The clinical history, in brief, is as follows: The patient, an American, married woman of 22 years; three months previous to admission was delivered of twins, since which time she had complained of pain in the left hypochondrium and experienced a sensation of something moving during sudden motion. An exploratory laparotomy was performed and a greatly enlarged spleen presented. A blood smear was made to exclude Leukemia and Splenectomy performed. The patient made an uneventful recovery.

The gross specimen consists of an enlarged spleen, 20 centimeters in length, 11 centimeters at the poles, the broadest points; the thickness here varies between 6 and 7 centimeters. The surface is lobulated and irregular, especially at the extremities. At the center of the organ is a constriction separating the spleen into two quite distinct lobes. These are raised 3 or 4 centimeters above the central constriction. The capsule is apparently intact over the entire organ. The protuberances situated at the extremities are thin-walled, project prominently and fluctuate. The larger is about 7 centimeters in diameter. Upon aspiration, a fluid of yellow color, slightly turbid, and of 1.030 specific gravity, was withdrawn. The fluid shows 6 per cent. of albumen by weight, no reduction of Fehling's solution and under the microscope many red blood cells. There are many smaller cysts projecting from the surface. The specimen was hard-

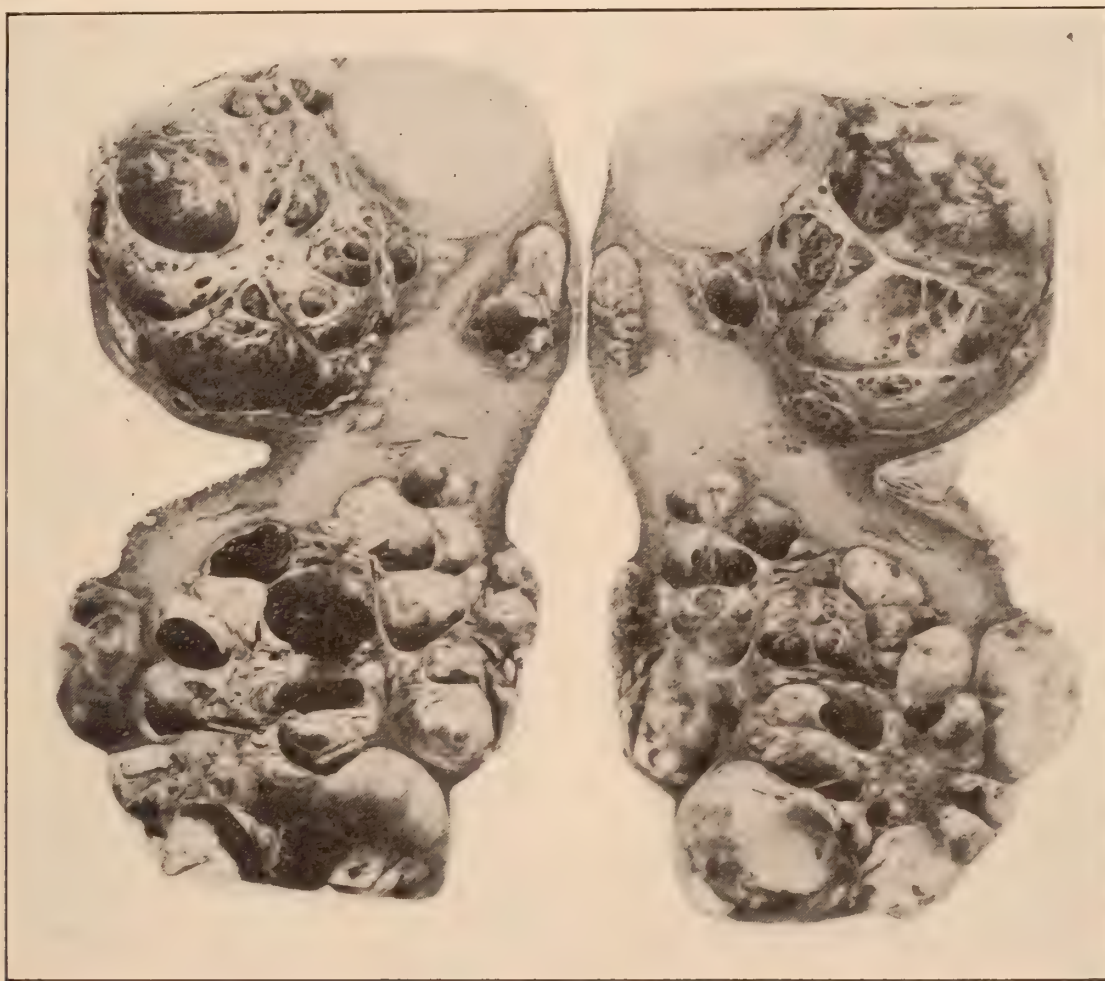
ened in formalin and preserved in Keiserling solution before longitudinal section was made. The cut surface shows that the tumor formation is essentially cystic. The larger cysts are situated at the poles. The cysts contain whitish, homogeneous, semi-solid masses, the result of coagulation by the fixative. When the jelly-like material is removed the larger cysts are found to be subdivided, the larger cyst at the upper pole is seen to be composed of two cavities. The smaller of these two cavities is smooth in its interior, the other has many projecting edges or septa separating it into many small compartments, giving the appearance of formation from the fusion of many small cysts. Examination of the opposite pole shows that this portion is literally riddled with intercommunicating cavities of various sizes. There is an area of firm parenchyma fairly free from cavities in the region of the central constriction. The cyst walls are extremely thin in places and those situated on the surface appear to be composed of but the serosa covering the organ. In the interior of the organ splenic tissue is seen to separate the cavities in some cases, while in other instances the lining membrane of one seems to be in contact with another. The interior of the smaller cysts is smooth for the most part and glistening and free from falciform projections. The weight of the organ exclusive of cystic contents is 385 grams. The vessels at the hilum do not appear thickened. There is no demonstrable dilated lymphatic trunk.

The general appearance under the microscope is that of a general dilatation of the lymph sinuses. There are



many such spaces of various sizes and shapes; some are tortuous and intercommunicating, others are long and arranged in parallels. Some are round, others are oval. The entire section is seen to be made up of this system of spaces, surrounded by splenic parenchyma. They possess a very delicate membranous lining of connective tissue in places which compose the wall, supporting in some instances endothelial cells. In other instances it is not possible to identify

pear to possess normal walls. In some follicles they are situated eccentrically, some follicles show two situated near the periphery. The blood vessels in other situations appear normal. The connective tissue trabeculae are somewhat increased. In a few situations they are seen to contain dilated spaces, apparently lined with endothelium which contains lymphocytes and fibrin. These are taken to be dilated lymphatic vessels. Some of the larger spaces show, in addition



MULTIPLE CYSTIC SPLEEN.—Case reported by Dr. Royale H. Fowler.

positively membranous lining and endothelium. Lymphocytes are seen to touch directly upon the membrane in some places. The contents show for the most part large and small mononuclear leucocytes with a preponderance of lymphocytes, shreds of fibrin, an occasional neutrophilic and eosinophilic polynuclear leucocyte, and here and there scattered red blood cells. There are some scattered collections of round cells which appear to represent Malpighian bodies. These follicles show some hyperplasia, otherwise no change. The arterioles ap-

pear to possess normal walls. In some follicles they are situated eccentrically, some follicles show two situated near the periphery. The blood vessels in other situations appear normal. The connective tissue trabeculae are somewhat increased. In a few situations they are seen to contain dilated spaces, apparently lined with endothelium which contains lymphocytes and fibrin. These are taken to be dilated lymphatic vessels. Some of the larger spaces show, in addition

to the membrane alluded to, a wall of connective tissue which appears somewhat thicker than that composing the smaller spaces. The wall is infiltrated with leucocytes and red blood cells. One or two of the largest spaces are partially occupied by homogeneous pink staining masses in addition to the cellular contents. A section was removed from the central constriction and shows small macroscopic cysts half the size of a pea. Microscopically, there is less general dilatation of the lymph sinuses and more actual cyst formation. The parenchyma is



denser and shows greater congestion. The several large cysts visible to the naked eye appear under the microscope to possess a definite wall of connective tissue, and in some instances an endothelial lining. They are occupied by a smooth, homogeneous, pink staining mass which has become slightly retracted from the walls. The cells lining these cavities have become separated in places adhering to the homogeneous mass. The walls of some of the larger cysts appear to be made up of connective tissue which has become changed through hyalin-like degeneration. It stains poorly, a bluish color. These are to be considered as secondary regressive changes and not primary causal ones. Scattered in and about the lymphocytes are deposits of finely grained blood pigment. The dilated spaces, which correspond to dilated lymph sinuses, show cellular contents as described in the first slide and not coagulated masses of lymph. Some of the larger spaces are seen to be surrounded by more connective tissue than would ordinarily compose the wall of such a cyst. The arrangement also differs, the connective tissue appears in elongated bundles resembling obliquely-cut trabeculae. These are taken to be lymph vessels lying in trabeculae. They are occupied by homogeneous pink staining masses which in part have become separated from the walls, the lining endothelium having become detached and adherent to the homogeneous masses. A third section shows a greater number of small cysts the size of a pea. Microscopically, there are countless cavities, large and small. Some are intercommunicating and some are separated by splenic tissue. In other cases the lining membranes of each cyst serve to separate them. The majority are irregular, some present finger-like projections, giving the impression that they have been formed by the fusion of smaller ones. Separating the cavities in places are strands of bluish staining fibres resembling degenerated connective tissue, showing lymphocytic infiltration. The walls of the larger cysts are

composed of this same bluish staining material in addition to lining endothelium. In places the lining cells have become loosened and retracted with the homogeneous contents. Some cavities contain the smooth material above mentioned, others this with lymphocytes scattered throughout. The contents of a few show red blood cells alone, others these cells with a narrow zone of homogeneous material near the wall. The walls of the smaller cysts show a delicate connective tissue membrane, degenerated in places, in part supporting endothelium. The thin membranes of the smaller cysts are in contact in places and show no splenic tissue between them. Slide No. 4 shows a section cut from the cyst wall of one of the largest cavities. In the gross the lining membranes of two cavities here appeared to touch. Under the microscope the wall of each cyst is composed of degenerated connective tissue; it stains poorly a bluish tinge, fibres are more or less homogeneous and nuclei are indistinct. There seems to be no lining endothelium except in one place where pink, smooth material has remained and become slightly separated from the wall, retracting with it a few endothelial cells. Between the connective tissue walls of each cavity is deeply congested splenic parenchyma. The lymphoid structure is separated and forms tortuous channels, giving much the same appearance as that interpreted in slide No. 1, as a general dilatation of the lymph sinuses. The blood vessels here appear normal. Slide No. 5 is one of a series of sections made at the hilum to determine the condition of the afferent and efferent vessels. The parenchyma in this situation is occupied by a group of about a dozen cysts, showing the same features as hitherto described. In addition to these large cavities, may be seen a dilatation of the lymph sinuses, which occupies the area immediately surrounding the group of cysts. There are two vessels; one is taken to be an artery, and on the other structure a diagnosis is not possible. The one shows an intima, much degenerated, taking a blu-



ish stain. There appears to be some thickening in places, in others intima is absent. The internal elastic coat stands out plainly. The degenerative process seems to have invaded the media, as shown by scattered areas of bluish staining tissue. The adventitia shows a connective tissue of bluish tinge; fibres and nuclei are indistinct. The lumen is occupied by coagulated masses and blood, for the most part red cells. The other structure, almost as large as the artery, shows a wall half the thickness of the artery consisting of smooth muscle fibres intermingled with degenerated connective tissue. No intima or definite tunics can be demonstrated.

In review, an enlarged spleen has been observed, showing countless large and small cavities almost obliterating the parenchyma. Microscopically, there is a general dilatation of the lymph sinuses, and spaces in the trabeculae indicative of lymph-angiectasis. The small cysts show a thin membranous lining supporting endothelium, the largest in addition a distinct degenerated connective tissue wall. The contents correspond to lymph, the red blood cells may be traced to secondary hemorrhages. It appears justifiable to consider the cyst formation a new growth, most plausibly interpreted as a lymphangioma, arising from misplaced lymphatic vessels or their cells of origin which have become shut off early in embryonic development.

#### DISLOCATION OF THE CERVICAL VERTEBRÆ.

DR. JAMES P. WARBASSE said this case occurred in his service at the German Hospital. A man fell backward flexing the head on the thorax, and when he recovered himself he found he was unable to move his extremities. He was picked up and brought to the hospital, and it was discovered he was soon able to move his lower extremities, but his hands and forearms were paralyzed. The disturbance was equilateral. Dr. Browning examined him.

The speaker made extension on the man's head with the hope of reducing the deformity, but was able to accom-

plish very little. Then with the patient on the operating table, extension being made on the head, he put on a plaster cuirass, involving the head, neck and upper part of the thorax, to give as much continuous extension as possible and at the same time immobilize the neck. He was able to move his hands within five days of the time of the accident and steadily the symptoms cleared up. He then had made an X-ray photograph, which showed an anterior dislocation of the sixth cervical vertebræ to a degree equal to one-fourth the diameter of the body of the vertebræ. That was rather an extreme dislocation, and must have made a certain degree of pressure on the spinal cord. However, there was not a sufficient amount of pressure to cause a complete inhibition of impulses, for the man is at work and appears robust and well. It took about three months for all of his muscular weakness to clear up. There still remains some slight evidences of inhibition of nerve impulses, but they do not interfere with the general well being of the patient.

DR. J. EDDY BLAKE said that a year ago they had a similar case in the Brooklyn Hospital Dispensary, but with not such a degree of deformity. The case was unilateral. It was dislocated sideways and backwards. The man had fallen backward and twisted his neck, and there was a fracture of one of the lateral processes allowing a dislocation. He suffered from a slight amount of weakness in the lower extremities and a great deal of neuralgic pain. His only complaint was this neuralgia. He carried his head somewhat flexed and turned sideways the sternomastoid being shortened. An X-ray picture showed the deformity.

#### ANEURISM OF THE AORTA.

DR. THURSTON H. DEXTER reported the above case and presented a specimen obtained at autopsy.

#### MYASTHENIA GRAVIS.

DR. FREDERICK TILNEY reported a case of Myasthenia Gravis and presented a post mortem specimen of the same case.



**ANALYTICAL REPORT OF ONE HUNDRED CASES OF TYPHOID FEVER.**

DR. EDWARD E. CORNWALL read a paper with the above title.

The 100 cases he reported occurred in his services in the Norwegian and Williamsburgh Hospitals between July 8, 1906, and September 1, 1908, and constitute a continuous series. Ages ranged from 6 to 64 years, 78 of the cases being between 15 and 34 years of age. Widal reaction found in 71 of 80 cases in which the test was made. In 29 of the cases the maximum temperature was between 104 degrees and 105 degrees, in 13 between 105 degrees and 106 degrees, and in 7 between 106 degrees and 107 degrees. Constipation was present in 70 cases and diarrhoea in 23. Tympanites was noted in 10 cases. There were 16 relapses. Intestinal hemorrhage occurred in 18 cases, pneumonia in 9, perforation in 1, phlebitis in 4, acute myocarditis in 2, acute nephritis of marked character in 1, a large ischio-rectal abscess in 1, cystitis in 2, appendicitis in 1, (probably recurrent attack), acute arthritis in 2, and pregnancy in 2.

Eight of the fatal cases died from intestinal hemorrhage, 6 from pneumonia, 1 from perforation, and 1 from the severity of the disease overwhelming the weak heart of a man 66 years old with advanced arteriosclerosis.

Of the 16 deaths, 10 occurred in patients who came under treatment in the third week or later of the disease, after previous neglect or bad treatment, and consequently were not favorable cases on which to demonstrate the value of treatment. Subtracting these 10, the death rate for 90 cases, among which the proportion of severe infectious was above the average, is 6.5 per cent.

Dr. Cornwall fed his cases on an exclusively fluid diet, consisting mostly of modified milk or "artificial buttermilk" until a week or 10 days after defervescence. Whole raw milk he considered unsuitable for typhoid patients. His treatment outside of diet was purely symptomatic. He thought that most uncomplicated cases needed

no drugs whatever, unless it might be stimulation of the heart in the latter part of the disease when the myocardial weakness became pronounced. He had tried calcium chloride for hemorrhage, and was inclined to think it useful. Tympanites as well as diarrhoea he believed were to a large extent controllable by diet. When perforation occurred he thought the case should be handed over to the surgeons for immediate operation.

DR. WALTER TRUSLOW said the reader of the paper mentioned two cases of rheumatic arthritis. We know nowadays, the speaker said, that typhoid fever will cause infections in the joints, and the bacillus has been demonstrated in joints.

DR. EDWARD E. CORNWALL replied that what he said was that acute articular rheumatism *seemed* to have occurred in two cases. It probably was simple typhoid arthritis.

In regard to feeding in children. The giving of some solid food early in defervescence might be all right. At the present time everybody is agreed that an exclusive milk diet is not a good diet, but milk modified with other things added is one of the most valuable foods we have in typhoid. His cases showed only 10 per cent. of tympanites.

As to the actual amount of food. It is not the amount of food you order for a typhoid; it is the amount he assimilates. He can only absorb a certain amount, no matter how much you give him, and the problem is to give him as much as he can dispose of. We all come across cases where we believe we have produced some serious complication by giving solid food too early. He cited a case which was dying apparently of starvation and he began to feed her with gruels and soft eggs. She promptly developed a perforation and died.

As to calcium chloride and lactate, he did not know whether it does good or not. Some hemorrhagic cases seem much benefited by the hemorrhage, which probably depletes the system of toxins. He found calcium chloride



useful in cases of hemorrhage and had used it frequently.

#### THE DIAGNOSIS OF RHEUMATISM IN CHILDREN.

A paper with the above title was read before the society by Dr. Le Grand Kerr.

#### THE DIAGNOSIS OF THE RHEUMATIC JOINT.

A paper with the above title was read before the society by Dr. Charles DeWitt Napier.

DR. WALTER TRUSLOW thought we should get away from the use of such words as rheumatoid, gonorrheal rheumatism and typhoid rheumatism. These words are not accurate enough. If we cleared this up we could get at the real conditions.

He was glad to note the distinction between rheumatism in children and in adults, as outlined in Dr. Kerr's paper. As to the differential diagnosis in adults it seemed not enough stress was laid on the history of the patient. A tubercular joint history is often very indefinite. The history of an acute infection from scarlet fever, diphtheria, typhoid and gonorrhea is very much easier. We have a more definite basis on which to act. The history in syphilis is sometimes difficult to get.

Turning to the objective signs in a given joint, if it is a tubercular joint we are more apt to notice an earlier wasting of the muscles and tissues next distal to the joint involved. These wastings do come in other forms of arthritis, but they are more marked in the tubercular.

As to the question of the kind of spasm one gets on attempting to manipulate joints, Dr. Napier laid stress on this symptom in the rheumatic, gonorrheal and typhoid joint, where the pain is more acute than in the tubercular joint. Also in the tubercular joint, signs of muscle-spasm resistance to manipulation are to be

noted in one particular direction more than in others—the flexors of the joints are more apt to be involved. In other joint affections, the muscle-spasm tends to lock up all joint activities of the joints involved.

DR. EDWARD E. CORNWALL said the best way to get rid of the difficulty in nomenclature of the word rheumatism was to restrict it to the acute specific infectious fever, which might be called rheumatic fever, and the condition of the joints might be known as rheumatic arthritis.

As to the question of murmurs, a hemic murmur is always due to relaxation and regurgitation. No doubt also you get that murmur from an alteration in the relative sizes of the ventricles and vessels.

DR. LEGRAND KERR considered the history taking in these cases of prime importance, because of the tendency when the question is asked of a parent, "Have you ever had rheumatism," to say "no." Then when the question is pushed as regards the early manifestations of rheumatism, we find we have a clear history of rheumatism in that parent.

The results obtained by laboratory workers has led us to overlook some of the things upon which we used to rely. He saw no good reason for denying the existence of a condition in the system, (call it diathesis if you wish), which makes the child liable to the development of rheumatism. He was becoming more and more convinced that acute rheumatism in children was an acute infective process due probably to several germs, and thought they would be isolated in time. He thought we must have a germ to cause the disease, but its development also was favored by a congenital condition of the system, which makes that particular child more liable to the development of rheumatism. We have a seed, and we must have a suitable soil for that seed.



# TRANSACTIONS

OF THE

## BROOKLYN SURGICAL SOCIETY

*Regular Meeting, January 7, 1909.*

The President, C. H. GOODRICH, M.D., in the Chair.

### ABSCESS OF THE LIVER.

DR. H. B. DELATOUR stated that this patient, a male, aged 22, was admitted to the Jewish Hospital October 7th. He was never sick until seven weeks before admission to the hospital. His illness began with stabbing pain in the lower right quadrant of the abdomen radiating up to the right cheek. He vomited a number of times, had some fever, but no chills. A few days later he had symptoms all over the abdomen, which lasted a week. The pain persisted with occasional remissions. No urinary symptoms.

*Examination.*—Normal temperature on admission. Abdomen fairly regular, not distended. In the upper part of the abdomen there was a mass that extended partly across below the free border of the ribs and was somewhat tender on pressure; more tender on pressure toward the median line than to the right, and it was a question as to what the diagnosis was. There was a leucocyte count of 26,000 with a polymorphonuclear of 78 per cent. He was vomiting more or less persistently and having quite considerable pain. The diagnosis of possible tubercular peritonitis was made, thinking possibly it was involving the upper abdomen, and that the mass to be felt was the omentum rolled up. There was some fluid in the lower abdomen.

A right rectus incision was made in the upper abdomen, and on opening the cavity this mass was found to be the liver. The right lobe of the liver projected three inches below the free edge of the ribs, and by passing the hand underneath one could feel a decided bulging of the under surface of the liver. With the

liver exposed he introduced a large aspirating needle, and after passing it in one and a half inches it apparently entered a cavity and he withdrew pus.

His experience in draining through an anterior incision had been unsatisfactory, and several previous cases he had drained through a posterior incision with better results, so he determined to reach the abscess cavity from behind. Fearing he might not reach it in that direction he packed around the wound with iodoform gauze, so that adhesions would be formed between the liver and the parietal peritoneum. He turned the patient over, resected a portion of the tenth rib and exposed the diaphragmatic pleura. In those cases where that rib is resected, the pleura will be found pressed up against the rib. In one case he was not sure whether it was the diaphragmatic pleura or the surface of the liver, and in that case he passed his finger up into the pleural cavity, and it was very unfortunate that it happened. Having that in mind he was particular to make no exploration in that direction, and after enlarging the wound he packed it with iodoform gauze, so as to be sure and set up permanent adhesions; the patient was sent back to bed. In the previous case the man developed a simple pleurisy, which soon became purulent, and although the liver condition was improving, he had to have a secondary operation for empyema, and between the two he succumbed. In this case he did not open into the pleural cavity.

Three days later without anesthesia the packing in the posterior wall was removed. An incision was made through the diaphragm down to the



liver and he found no adhesions there. The liver was free and he packed around with iodoform gauze so as to get adhesions between the diaphragm and liver. Three days subsequent to that an opening into the liver was made and a pint or more of pus evacuated. There was about one and a half inches of the liver tissue traversed. From the anterior examination he was satisfied that the abscess he drained from behind did not communicate with the first abscess described, because the mass, as he felt it from in front, was much larger than this abscess represented. However, he let it drain for two or three days without touching the anterior portion and there was no increase in the amount of discharge, and he felt sure he was simply draining a second abscess which was behind. This was so far away he could not reach any tissue in front. Then he opened up the front wound, removed the packing, which had been in place a week, and through that incision opened into the second abscess, from which nearly a quart of pus was discharged and then drainage established. The temperature immediately arose following the opening of this abscess cavity, and after two weeks came down to normal. He was operated on October 9th, the operation taking 21 minutes. The patient was discharged on December 23d.

At the time of operation he looked like a consumptive. He weighed 65 pounds on admission and now weighs 115.

#### ACUTE INTESTINAL OBSTRUCTION.

DR. H. B. DELATOUR said this patient, a man 62 years old, was admitted to the Norwegian Hospital about eleven o'clock one evening, with a history that he had been perfectly well up to 10 o'clock that morning. While at work he was seized with severe, sudden, abdominal pain and vomiting. He vomited all that day and was admitted to the hospital twelve hours after the onset of the symptoms. At that time he was very much shocked, his general condition was poor, and he was vomiting fecal matter. In the

lower abdomen was a rounded mass which came up to the umbilicus, and so resembled a distended bladder that he felt compelled to catheterize to see if the bladder was distended before he did anything in an operative way. Only a few ounces of urine were withdrawn and it made no difference in the appearance of the tumor. What the cause of the obstruction was could not be determined and they decided on immediate operation.

On opening the abdomen they found a tumor about the size of a good-sized grapefruit occupying the pelvis. On lifting it up they found this tumor originated from the mesentery of the small intestine, not involving the intestinal wall itself. The tumor was easily removed from the mesentery, the wound sutured and the patient put back to bed. He never rallied from the shock and died the following morning.

The pathological examination showed this to be a sarcoma. The only explanation he could see of this case was that this tumor had originated from the mesentery and grown into the abdominal cavity without the man's knowledge, and that morning during the exertions of his ordinary labors the tumor mass dropped into the true pelvis and so completely shut off the small intestine. The tumor was jammed in the true pelvis and was attached to the small intestine about half way up. The pressure in the pelvis had completely closed the small intestine high up and brought on early vomiting. The case was of interest because of the unusual character of the tumor and the unusual situation.

#### *Abstract of Discussion.*

DR. R. W. WESTBROOK stated that he had drained similar cases of liver abscess through the chest wall from the side, and it occurred to him in this case possibly Dr. Delatour might have drained it more successfully from the side in view of the later necessities of the case. We are in more danger of wounding the pleura in going through the chest wall posteriorly, he said, and it seemed to him that lateral



drainage is often equally good, the abscess being located in the right lobe. He thought we are meeting with peculiar cases of abscess of the liver, which are difficult to explain.

He had a curious case a while ago where there was no history bearing on abscess of the liver. A strong, robust Italian of 28, who had no previous history of dysentery, no infection of any kind and had lived in this country for two years and had no traumatisms. Two weeks before he came into his hands he began to complain of pain in the upper abdomen on the left side. He was seen in the medical clinic of the Brooklyn Hospital and no diagnosis made. Two days after a tumor developed under the left rectus muscle. It was tender and projected slightly. The temperature was about 100°.

An incision was made over the left rectus at its upper end. The left lobe of the liver seemed to be enlarged. There was no perihepatitis of any kind; only a small projecting area into which he put an aspirating needle and got pus. He drained with a large sized drainage tube, and surrounded the whole with a packing of iodoform gauze. The man made an uninterrupted recovery and left the hospital in three weeks. The absence of suggestive history, the fact that the abscess was in the left lobe, which is unusual for single abscess, made it altogether unusual. No examination of the pus was made.

#### GASTRIC ULCER.

DR. A. H. BOGART said the patient from whom this specimen was removed was a man 42 years of age and a machinist by trade. He was admitted to the Medical Service at the Kings County Hospital, on May 28, 1906, and gave the following history: He had escaped the usual diseases of childhood, and had never had syphilis or rheumatism; he admits using alcohol, usually in the form of beer, but not to excess; he attributes his present trouble to the fact that his occupation requires him to make constant pressure in the epigastrium with one of his working tools.

One year ago he began to suffer from pain in the epigastrium and vomiting, the pain usually came on about two hours after eating and was not relieved until he vomited. During this time he had lost considerable flesh and strength. Two days after admission he vomited a considerable quantity of blood. He was put on appropriate treatment for ulcer of the stomach at that time, and on July 13th was discharged much improved, having been relieved of his epigastric pain and vomiting, and having gained considerable weight.

On October 9, 1907, he was again admitted to the hospital and came under his care in the surgical service. He stated that for about four months after leaving the hospital he had been quite well and able to attend to his work, but at the end of that time he began to suffer from the same symptoms, viz.: pain in the epigastrium and vomiting, as he stated, from ten o'clock in the morning until late at night, he had not vomited any blood, and again felt that his occupation had much to do with his trouble.

Examination showed a fairly well nourished man who complained only of pain and tenderness in the epigastrium and inability to retain food. On palpation a very decided point of tenderness was located just to the right of the median line, and about two inches below the ensiform; no tumor could be felt.

On October 14th, he opened the abdomen by an incision through the border of the right rectus muscle, upon exposing the stomach it was found to be the seat of an indurated mass situated on the posterior border of the lesser curvature, the mass was very dense and firm, and apparently about an inch to an inch and a half in diameter. Gastrostomy clamps were applied with some difficulty and the mass which included a considerable portion of the lesser curvature of the stomach was excised. The wound in the stomach was then closed, first by a through and through suture and finally by a Lembert suture, the abdomen being closed in the usual man-



ner. He bore the operation well and reacted promptly. After this operation he suffered considerably from nausea and vomiting for the first few days; otherwise, his convalescence was uneventful.

In reply to a letter addressed to him about six months later he stated that he was well and had obtained employment in the hospital.

In its present state the specimen presented is scarcely more than half its original size, as it has been very much shrunk by the presence of fluid. For this reason, together with its location, the operation was a difficult one, and yet, in his judgment, indicated in this and similar cases of large single ulcers, it would be asking considerable of a gastro-enterostomy to cure as extensive an ulcer as this. It has seemed to him that all ulcers of this character should be excised whenever possible and he believed it possible in most cases.

DR. A. H. BOGART said this patient, a male, age 36, and a coachman by occupation, was referred to him at the Kings County Hospital, on November 22, 1908, by Dr. J. F. Dooling, with a diagnosis of gastric ulcer.

His mother died of cerebral hemorrhage, his father as well as one brother and a sister are living and healthy; there is no history of cancer or tuberculosis in the family.

He has had the usual diseases of childhood, but gives no history of venereal disease. He has used alcohol excessively for a number of years, usually in the form of whiskey.

His present trouble dates back about eighteen years, when he began to suffer from severe pain in the epigastrium slightly to the left of the median line; this pain was very sharp in character and passed through to the back. He was not able to locate any special point of tenderness, but says that his abdomen was tender all over; the pain was made worse by eating and only relieved by vomiting, though temporarily relieved by direct pressure over the epigastrium; he never vomited any blood, but always complained of a great deal of gas. At times he would

be free from this pain for four or five months, but during the attacks he lost a great deal of weight.

Upon examination the patient was found to be in good physical condition, though somewhat under weight. There was a decided point of tenderness in the epigastric region, just to the right of the median line, but no mass could be felt.

Examination of the stomach contents showed no evidence of malignant disease and no blood. Examination of the stools, however, showed blood at times.

On November 23d the abdomen was opened by a four-inch incision through the right rectus muscle. Upon exposing the stomach its pyloric end was found to be the seat of an indurated mass with a central cicatrix. In the same region the organ was surrounded by firm adhesions which interfered with its free movement at that point. On account of these adhesions and the extent of the mass which seemed to occupy the entire pyloric end of the stomach, it was deemed wiser in this case to do a gastro-enterostomy than to attempt a pylorotomy, or even an excision of the ulcer. A typical no-loop posterior gastro-enterostomy was then done, using number one chromic gut for the mucous suture and silk for the serosa; the abdominal wound was then closed in the usual manner, patient placed in bed and Murphy irrigation started. At the end of sixteen hours he was allowed small quantities of warm water and thirty-six hours later fluids. He vomited but twice after the operation, and with the exception of a slight cough and some pain due to pulmonary irritation made a smooth recovery, the wound healing by first intention and the suture being removed on the eighth day.

Ten days after the operation he stated that the old pain had been relieved and made a request for more food.

It is to be regretted in this case that the conditions as found were not such as to recommend a complete removal of the ulcer, for a more favorable site for the subsequent development of a



malignant growth could not well be imagined. Earlier diagnosis in diseases of the stomach will afford opportunities for the surgeon to do complete operations and to obtain results which are now impossible.

*Abstract of Discussion.*

DR. W. C. WOOD said that he had heard a very interesting discussion on the treatment of gastric ulcer from a surgical standpoint by Rodden, of Philadelphia, the previous evening. Twice within the past year he had done a gastro-enterostomy for gastric ulcer and the early results in both cases were excellent. In one case six months afterwards there was a recurrence of hemorrhage and pain. The other case did fully as well for fully as long. Since that time he has been having some gas and some distress after eating. Dr. Rodden in the paper referred to brought out very clearly that in an indurated ulcer near the pylorus it was seldom that we would get a permanent cure by gastro-enterostomy, unless the ulcer was so located that we had practically an obstruction of the pylorus from the ulceration and stricture.

The speaker thought Dr. Bogart's case interesting and would like to know the future history of the case, because this was done in November. So far it had gone exactly like the two cases he had done, both of whom had a relapse of the symptoms after some months. Rodden is one of the strongest advocates of doing a partial gastrectomy and then a gastro-enterostomy in cases of gastric ulcer near the pylorus.

DR. H. B. DELATOUR said he wanted to speak along the same lines. Dr. Bogart spoke of the desirability of removing the diseased area in these cases because of the possibilities of carcinoma becoming engrafted on the site of an old ulcer, and he thought that a well established fact. Then, too, he said, we have the pretty general opinion of men who have been doing these cases, substantiating what Dr. Wood had said, and it was certainly the operation of election, if not of choice, to

do a pylorotomy, if possible. He had two cases of this sort where the adhesions seemed to be very dense and both had proven to be perforating ulcers setting up adhesions between the pylorus and the liver. One case an attempt was made to suture the opening. The patient was in very bad general condition; the sutures did not hold and he died of peritonitis a short time afterward.

This winter he had presented a similar case to him at the Jewish Hospital. He did a pylorotomy, and in order to completely remove the mass it was necessary to remove a portion of the pancreas with it. Pylorotomy was done, dividing through the duodenum and through the stomach, removing about one-third of the stomach with the pylorus. It was possible then even to unite the duodenum to the stomach, and he made an anastomosis at that point rather than do gastro-enterostomy. That case made an uninterrupted recovery except for a fistula discharging pancreatic secretion. That finally closed and the patient apparently is in perfect health at the present time.

DR. M. FIGUEIRA said that in the case presented by Dr. Bogart, a man aged 38, cancer of the pylorus could not be excluded from the history and symptoms or findings of operation. Cases after gastro-enterostomy do get well inside of three months and then develop symptoms showing malignant disease. He had seen cases like that that proved to be malignant. He had a case which was entirely well for a year after operation, then died of malignant disease.

In regard to the engrafting of malignant disease on a chronic ulcer, it does happen in cases neglected and not operated, but he did not think that cases of gastric ulcer operated on by gastro-enterostomy developed malignant disease.

In regard to the advantage of performing pylorotomy in place of gastro-enterostomy, it must be considered in the light of the mortality of the two operations. The mortality of pylorotomy is quite large, where-



as the mortality of gastro-enterostomy for ulcer of the stomach is only about 3 per cent. Although some cases after operations for pyloric ulcer have recurrences, he thought the general rule was they get well. This he believed from his experience, and also from the latest publications of Osler and Keen.

#### SARCOMA OF ELBOW.

DR. F. C. PAFFARD said that two years ago he saw a woman who complained of pain in the elbow, and he thought it was a neuritis. He saw her again this fall, and it seemed that the pains did not get better. Two months after that she noticed a small lump at the ulnar side of the left elbow. She then began to go around the hospitals, and the diagnosis of sarcoma was finally made. All that time the sarcoma was growing. When she came to him on November 26th the mass was as large as an orange and evidently a sarcoma. To make sure, Dr. Murray examined a small section, and he found a giant celled sarcoma.

The question was whether to excise the elbow or take off the arm. He found the ulnar nerve ran through this mass, and he thought better to take off the arm, which he did. The recovery was uneventful.

The point of interest to the speaker was that two weeks before he saw her she had been to several places and had different opinions as to treatment. In some cases it was thought advisable to do an intra-scapular operation, and in other cases they thought best to simply excise the elbow.

#### PULMONARY EMBOLISM.

DR. F. C. PAFFARD reported the following case:

A patient, aged 18 years, was operated April 26, 1907, at St. Peter's Hospital for suppurative appendicitis of five days' duration. The appendix was easily found. It was surrounded by a small walled-off abscess. The appendix was removed and a glass drain inserted. The drain was removed on the ninth day. Convalescence was normal until the thirteenth

day, when I saw him about noon, complaining of a moderate amount of pain over the region of the heart. Temperature 99 degrees, pulse 80, respiration 20; wound healthy and physical examination negative. At three P. M. he had a slight chill, and his temperature was 105 degrees, pulse 120 and respiration 27. Pain had not increased, but there was some restlessness. At six P. M. he complained of great precordial oppression, became very cyanotic, went into collapse and died.

#### *Abstract of Discussion.*

DR. M. FIGUERIA remarked that Dr. Paffard spoke of being astonished at the variety of opinions expressed, and after all these views amputated three inches below the shoulder joint.

The speaker said he saw a case of sarcoma of the elbow in Bellevue in the practice of Dr. Sands; that it was operated on four times for recurrence until a shoulder joint disarticulation was done and then the process stopped.

In cases involving the humerus, the speaker said, the disease will return in the continuity of the tissues of the bone, and he thought that it was proper in such cases to disarticulate at shoulder joint.

#### THREE CASES OF CANCER OF THE RECTUM.

DR. W. C. WOOD said that it had been his lot to operate on a considerable number of cases of cancer of the rectum with very unsatisfactory results. Some of them had died from shock, some of them had died from local sepsis after resection of the bowel, attempting to save the sphincter; others had lived with an artificial anus up to a period of some four years and ultimately had died of recurrence.

This year in March he saw by Mayo an operation of perineal resection of the rectum, a modified Tuttle operation, which is not described completely in any book on the subject. Since that time he has done three operations after that method, and they have given him some hope in regard to treating certain cases of cancer of the rectum.



The speaker said he would describe briefly how the operation should be done and also describe briefly the three cases he had done since April. The patient is placed in the lithotomy position with the pelvis lifted extra high. After good preliminary catharsis, a small pad of gauze is passed into the rectum so as to fill the rectal tube. A purse string suture is passed around the anus, closing off the rectum completely, and the mucous membrane around that point is cauterized with the cautery, so as to destroy every bit of infection; an incision is made around the anus, dissecting the mucous membrane free, but leaving the sphincter muscle intact; the sphincter muscle is sectioned at the posterior commissure and the incision carried back to the coccyx. As the rectum is bisected loose from the sphincter a second traction ligature is passed around the rectum, and then the levator ani on either side is cut and with it the fascia above; the rectum is separated from the urethra in the male or vagina in the female, and pulled down upon, cutting any band of retaining connective tissue on either side of the rectum until the peritoneal pouch in front is reached: this is opened, and a long strip of gauze passed into the peritoneal cavity; the peritoneum is still further incised on either side, and on reaching the posterior portion where there is no peritoneum a long clamp is applied from back of the anus to a point on the superior hemorrhoidal vessel. The rectum at this time can be pulled down, so that the peritoneal surface on the front of the rectum is well behind the level of the skin of the perineum. In one case he did, the rectum was pulled down eight inches, in another seven, and in another six. Then the piece of gauze is taken out from the peritoneum and the peritoneum is carefully sutured to the transplanted rectum, the peritoneum being in the normal position. Then the stumps of the levator ani are sutured to the side of the rectum; the sphincter is closed behind after the rectum has been carefully sutured. We have left open

the posterior opening, into which gauze is packed surrounding it, closing off and likewise draining the sacral pouch.

Thus we have no sepsis to that point; the gut has not been opened; there has been no contamination of the wound with rectal secretion. In the first case he made a section of the rectum with the cautery knife, leaving a ligature upon the rectum. The second case he did likewise. The third case he cut with a cautery and inserted a drainage tube.

The first case of this kind was a man 28 years old with a disease of four months' duration; some four inches at its upper limit with three inches of its lower limit from the anus. This man made a good recovery, being out of bed soon after a week. There was some suppuration in the sacral pouch. He saw the patient this week. He has been able to work at his trade as a printer ever since the early summer. He has control of his bowel except at the time of a diarrhea. The speaker urged him to keep his bowels open. He has been taking cathartics frequently, and except at this time is able to get along without any dressing.

The second case he did in September and got a slough of the rectum with secondary infection of the tissue around the sacrum. It was necessary six weeks after the operation to make a section of the mucous membrane with the cautery in the same way you would incise a fistula. That man has now complete control of his bowel, has gained about forty pounds in weight and is able to go back to work.

The third case he did in December. That patient made a smoother recovery than either of the other two. She had less after symptoms than the usual case of hemorrhoids. There was no infection whatever in the perineum. There has been no slough of the bowel except at the edge where the rectum was sutured to the sphincter. That now is granulating and the case looks as a case of hemorrhoids would at the second week, where the operation had been fairly radical.



# LONG ISLAND MEDICAL JOURNAL

VOL. III

JULY, 1909

No. 7

## SOME THOUGHTS ON HEREDITY.\*

By WILLIAM A. WHITE, M.D.

WASHINGTON, D. C.

IN this day and age when one is hearing on the one hand from the biologists such expressions as "the death-bed of Darwinism," and on the other hand from the philosophers the doctrine of determinism—that man is the result in all his parts of blind natural forces and that our efforts to control these forces merely interfere with nature and make bad matters worse—it behooves us to know somewhat of these various controversies and to have some settled convictions at least as to what our attitude towards the problems should be. This is especially true for us, for while the general subject of heredity has heretofore been for the botanist and the zoologist, we, as physicians, are gradually coming into our own in the broadest sense as the conservers of the race. In fact if we do not do this there are many problems of the most vital and immediate interest and importance that we cannot intelligently approach? How, for example, are we to consider all of the complexities involved in the great "campaign of education" as it is called—particularly with reference to tuberculosis—unless we have some idea, at least, as to the limits of our knowledge in dealing with the subject of heredity?

The whole subject has become of especial importance since the growth of preventive medicine to its present position of prominence. We are forced to look the issues squarely in the face for they must, from now on,

meet with large consideration in the problem of prophylaxis. The problems of heredity meet us at every turn. Every contagious disease raises the question as to the possibilities of transmitted immunity, and the physician, although he has always had the greatest wealth of material before him from which to make studies, must begin to utilize it whether he will or no for the demand will be made of him and he must measure up to expectations and requirements.

The great interest that centers about heredity, so far as man is concerned, is the problem of eugenics or stirpiculture—the preservation and improvement of the race. We all appreciate how in the lower forms of life the struggle for existence goes on most acutely. If on a spring day we were to take a walk through the woods and took the pains to examine as we went along the various plants, we should quite probably find that of the millions and millions of leaves surrounding us, we could not find one that had not been attacked in some way—by some insect, or worm, or fungus. The omnipresence of destructive forces in nature is appalling. The same thing maintains in the case of man, though perhaps not so evidently. The ravages of disease are so great that I often marvel that any one ever reaches a healthy adulthood, and if we stop a moment to consider I think we can but be impressed with the fact that those of us who have, belong to an extremely fortunate, and very small minority.

\* Annual Address, Georgetown Clinical Society, Washington, D. C.



I wonder if you have ever read that very interesting little fragment of Bernard Shaw's "The Man of Destiny?" If you have you will recall the setting. Napoleon has reached the little town of Tavazzano on the road between Lodi and Milan and has taken quarters at a small inn. The scene shows him hurriedly eating his dinner while studying a map spread on the table before him. The following conversation occurs between Napoleon and the inn-keeper. Napoleon remarks:

"Some red ink."

"Alas! Excellency, there is none."

"Kill something and bring me its blood."

"There is nothing but your Excellency's horse, the sentinel, the lady upstairs, and my wife."

"Kill your wife."

"Willingly, your Excellency; but unhappily I am not strong enough. She would kill me."

"That will do equally well."

"Your Excellency does me too much honor. Perhaps some wine will answer your Excellency's purpose?"

"Wine! No! That would be waste. You are all the same; waste! waste! waste! Clear away."

"Every man to his trade, Excellency. We inn-keepers have plenty of cheap wine; we think nothing of spilling it. You great generals have plenty of cheap blood; you think nothing of spilling it. Is it not so, Excellency?"

"Blood costs nothing; wine costs money."

"They say you are careful of everything except human life, Excellency?"

"Human life, my friend, is the only thing that takes care of itself."

That sounds rather blood-thirsty doesn't it? Shall we criticize "Le Petit Corporal." I am afraid if we do we will lay ourselves open to the suggestion that it is but another case of the "pot calling the kettle black," for after all how much better have we done? Wherein lies our superiority?

And if this is so, if the Napoleon of social forces is with us, destroying and devastating, what can be done about it? How can we prevent it?

It is not my purpose in this address to weary you with a doctrinaire discussion of the theories of heredity. I will not discuss the physiological units of Spencer, the gemmules of

Darwin, the miscellæ of Nägeli, the pangenes of De Vries, or the ids and idants, determinants and biophors of Weismann, nor yet any of the other micromeric theories, as they are called. Le Dantec's comment on all of them, that they seek to arrive at an explanation by reducing large things to small ones, is very much to the point. I shall only make an effort to place the general problem of heredity in what I deem to be its proper perspective, so that it may be intelligently approached.

The first questions, it would seem, that might come to us in viewing the situation in the large are: Is the race after all advancing, or is it standing still, or receding? and if it is advancing, or only advancing slowly, can the forces that are holding it back be controlled to permit of advance or of more rapid development and progress?

It was Rousseau, I believe, who won his first literary spurs by supporting the thesis that the savage was better off than the civilized man. To-day, the argument could be made stronger perhaps than then, since we have added so much to our knowledge of extinct races. The ordinary arguments used to demonstrate progress are really very crude. The fact that we have steam and electricity, that we can talk through space and be transported over land at the rate of a mile a minute, simply means nothing as to the development of man. All these things have much more to do with what has been called the "evolution of the environment" than with the development of man. They mean a ceaseless change of conditions that keep us in a delirium of adaptation; but is that advance? A great deal depends on the point of view.

It is true that our forbears filled their bellies at very irregular intervals with half-raw, half-burned meat which they knawed from the bones with about the grace of the average nariah dog. Were they less happy because they did not have mahogany-topped tables, and silver knives and forks? They did not miss what they never had, and it is questionable



whether the change from this Blut and Fleisch state to the present, with all its so-called refinements is really an advance. Raw and burned meat may not be to our taste, but who shall say that some of the concoctions that we are supposed to eat now-a-days represent an improvement in the preparation of food?

When it comes to mental endowments, we could hardly any of us say that we have, to any extent, surpassed the civilization of Greece. Their thinkers are read now as greedily as ever, while in the realm of art we have never learned to do better than to copy them.

What has really happened is that a tremendous change has taken place, is, in fact, taking place now constantly. The dancing girls of the Hippodrome are just as surely chained to their social level as the galley slaves of ancient Rome. But the chains have changed, they are not of iron, they have become the social conventions. They are nevertheless just as real, just as effective. Let her try to rise and these same social conventions which Schopenhauer so aptly likens to the quills upon a porcupine, preventing us from getting too close to one another, will be protruded by her more fortunate sister and thrust her back where she belongs. Is the process any less agreeable, does it involve any less suffering because it has been transferred from the physical to the mental sphere?

We are too prone to accept the signs of change as evidences of advancement. The automobile is an instance in point. It was supposed to be a great thing because it would enable people living a little way out of the city to get to their business quickly. That was all right for a time, until all the suburbs built up because they were so easy of access, prices of property rose and the radius of accessibility correspondingly lengthened. So the automobile shortened the time, the shorter time increased the distance and in the end what has been gained? So far as I can see, nothing.

We might draw similar illustra-

tions from any period of time. One hundred years ago, for example, we find Smollett's character in Humphrey Clinker, old Mr. Bramble, ranting about Bath, the then fashionable watering place of England, in terms that might have appeared yesterday in an editorial on Newport in the *Louisville Courier Journal*, while if we go back to the ancient civilizations and study their customs we will be surprised, not at the differences, but at the similarities.

From these illustrations I trust you may get my point of view, my idea. Simply, it is this: That the question as to whether the human race has actually advanced is certainly debatable. What we really see as we look back over the history of mankind, is a constantly flowing, a ceaseless and stormy sea of change. Here and there a favored nation—the Greeks—are raised upon the crest of a wave, again all mankind are engulfed in the dismal, superstitious, regressing trough of the Middle Ages, then the wave picks us up and for the moment we tremble in the full splendor of a commanding position in the brilliant sunlight of progress and enlightenment. The question is—is our civilization any better, the crest of our wave any higher, than that of Greece, Babylon, Egypt, that have gone before? I know not.

Whatever may be the solution of this problem it is perfectly evident that great changes have taken place, that our civilization differs radically from any previous civilization and that in the main it differs by our much greater knowledge of natural forces, and more especially of the possibilities of their application to practical problems.

If the race, in undergoing the many changes that time has wrought, has not actually advanced to the extent we have been inclined to believe, it is because of good and sufficient reasons, and although the results may be disappointing from a superficial survey of the facts, maybe a deeper study will lead us to agree with the valiant Pangloss in the Leibnitzian



doctrine that "all is for the best in this best of all possible worlds."

One reason why the change toward better things, or in fact change at all other than on the surface, is extremely slow in being brought about, is probably because acquired characters, that is, acquired by the individual during his life-time and not the result of inheritance—are not inherited.

Although it is pretty generally admitted among biologists that there is no sufficient warrant for the belief in the Lamarckian hypothesis of the inheritance of acquired characters, it is not deeply appreciated outside of a limited circle, yet this doctrine is perhaps the most important single position reached by a study of the subject of heredity in recent days.

How, for example, can one possibly conceive that the specially acquired manual dexterity of the graver could by any process be so impressed upon the sex cells that it would reappear in the offspring? These cells have no intimate relation with the several parts of the body. They are relegated to a corner, so to speak, and the only general relations in which they come with the rest of the body result from the fact that they are bathed and nourished in the body fluids.

While I am aware that the fact that we cannot imagine how the inheritance of acquired dexterity could be brought about does not make it therefore impossible, still there is no convincing proof that an acquired trait of this sort ever is transmitted. The only thing we can conceive of as being inherited is the particular make-up of the individual that made the acquirement of the trait possible.

We can see how this lack of transmission of acquired traits is really constructively conservative. The progress of the race has been one of infinite slowness, by a process of blind right and wrong trials. If every acquired trait were inherited, every wild idea propagated, the confusion of tendencies would multiply to no good. This, however, is not the case. Every departure from the

mean tends to be wiped out in accordance with Galton's law of filial regression. The fundamental is preserved while the variations tend to disappear. In this way the race is kept, as a whole, at the point of highest average efficiency although, of course, as is nature's way, often at the sacrifice of the individual. And so the progress has been slow and laborious but, and here lies the compensation, correspondingly sure, and permanent.

Thus it would seem, that like the soul of the theologians, the germ plasm takes up its habitation in the body. The body grows, develops, dies. The germ plasm is undisturbed and transmits to the next generation what it received from the last uninfluenced by the changes that may have taken place in the body, where it for the time being resided. This body, has absolutely no effect upon the germ plasm, as to the character of being it will produce in the next generation, except such effects as are produced as the result of general disturbances of metabolism, toxemias, and infections which impair the body fluids, and the immediate chemical and physical environment of the sex cells. These effects are general effects, however, and it is quite unthinkable that the effect on the next generation should be a reproduction of like conditions. The effects show themselves rather in generalized disturbances in development, oftener in the line of deficiency. This unchangeable character of the germ plasm is at the basis of the lack of inheritance of acquired characters and has given rise to the phrase the "continuity of the germ plasm." It is the result of a fundamental difference between the sex cells and the soma or body cells, a difference appreciable in the earliest stages of development, and their lack of intimate relation with each other.

This distinction of germ cells is of the greatest importance if we are to give serious consideration to the problems of race betterment. It means that selection to be efficient must be germ selection. We must



look deeper than the acquired veneer if we are to see truly.

Here comes another difficulty. How are acquired characters distinguishable from characters which were resident in the germ cell? This question cannot be answered very satisfactorily in the present state of our knowledge. Biological science has not yet unfolded a sufficient number of facts to make it possible for us to tell just how much, in any individual case must be attributed to the inherent qualities of the "germ plasm" and just how much to the influence of environment.

This distinction between the inherited and the acquired is most fundamental and most important, and yet it is a distinction which is most difficult, often impossible to make. The inherited characters, the capacity for becoming, are the real things of importance. If only these are present the rest is comparatively easy, but without these, there is little to hope for. But the more we observe of the influence of environment the more firmly we become convinced of the wonderful changes it can bring about, of the remarkable acquirements that are possible where they were least expected. Who, for example, a century ago would have dared to predict the changes America has brought about after only a generation or two of influence upon the persecuted, down-trodden, submerged elements in the races of Europe that annually emigrate to our shores. Who could possibly have foreseen the marvellous capacity for development these people were going to show, and who can say now what more of wonder the future may bring to pass? America is the greatest laboratory in the world for the study of the problems of heredity, for differentiating inherited from acquired characters, for defining the influence of the environment. The fetters have been stricken from the souls of hundreds of thousands of people who have sought this "land of liberty." This heterogeneous, cosmopolitan, mixed population presents the most complicated of problems, and in its very nature offers the greatest

hope. We have in our country the very best of the world if we can only turn it to good account.

If our experience with the immigrants makes us hopeful as to the influence of a favorable environment on bringing out latent and unsuspected good qualities, we ought also to be hopeful in the matter of selection as applied to the germ plasm. It is true that the germ plasm resists with great pertinacity any efforts to change it but the work of De Vries, has shown that very great changes—mutations—do occur with considerable suddenness. In other words change does not necessarily go on by infinitesimal steps over a very long period of time, but often by considerable leaps and bounds. In this way it is possible to take advantage of variations in a practical way which would be impossible if the changes were as slow and gradual as was formerly supposed, while experimental studies in Mendelian inheritance give even greater and much more specific reasons for a belief in the possibility of future accomplishments. For example, if two strains of wheat are crossed, one immune and one non-immune to the fungoid disease "rust" the resulting hybrids are all susceptible to the disease. Self-fertilization of these hybrids produces again the two strains. Those susceptible to rust, that is, the dominant or controlling strains, are in the proportion of three to one of those plants presenting the recessive or suppressed character of immunity. So we see that a quality like immunity may remain latent for a generation and that immune individuals may arise from parents who were susceptible to the disease as a result of what Mendel calls "gametic segregation"—or the separation of the gametes or germ-cells into two kinds, pure dominants and pure recessives. It is unnecessary to comment on the importance of such a fact as this for medicine.

All the hope indicated in these illustrations has been to a certain extent realized by preventive medicine as applied in the problems of sanitation. The span of individual life has



unquestionably been materially prolonged. Now the inevitable questions arise. Although the individual has been benefited by these results, does it necessarily follow that the race is better off. Can race improvement be measured by any single characteristic such as length of life? Is this increased duration of life necessarily associated with other conditions which make life more worth while?

There is very strong evidence to support the proposition that evolution can only take place in the presence of destructive agencies. Take for example, a disease like malaria. How fatal it is to us, yet the natives in malarious districts do not perish. Why? They have acquired an immunity. The infection being widespread practically every one is infected. Those who are susceptible either die or acquire immunity. The infection being practically universal, selection by killing of the susceptible is very thorough, and thus a race of immunes is developed.

Thus we see that destructive influences are at the same time selective agents and tend to weed out from the race all those who are susceptible to their influence, leaving a race thereby protected from their invasion.

This is an extremely important point and one which bears on many practical issues. Take for example, the question of the zymotic diseases. No single agent has destroyed so many human lives as this class of diseases. In the ages past literally millions of people were destroyed in single epidemics. The bacteria, or whatever morbid agent may have been responsible in specific instances, have been termed the true builders of empires. The number of people who have perished by the sword of the invader has been inconsiderable as compared with the numbers who perished by the diseases the invader brought with him. Diseases like measles, to which he was immune, but which in 1876 for example, sent to their death forty thousand Fijians out of a population of one hundred and fifty thousand.

It was this terrible destruction by disease to which the conquered had not

been rendered immune by selection, that so often came to the aid of invading hosts. The history of man will show that conquest has only endured when it was based upon the extermination of the conquered, and the principal agent in this extermination has been disease. Tasmanians, Malays, Polynesians, Australians, Maoris, have been destroyed by European diseases, while the Anglo-Saxon conquest of North America has so far destroyed the Indian that the greatest efforts we may make will not avail to avoid his extinction by tuberculosis. Several tribes will probably have their last remnants wiped out during the life of many of us.

The same sort of thing may be urged with reference to alcohol. Those people who are most affected by alcohol, are most drunken, are the people who have had little experience with it, the soberest peoples have used it most. This seeming paradox is true because of the action of alcohol as a selective agent. The more susceptible strains in a given race have generation after generation been weeded out and left the resistant.

It is such considerations as these that have led some to decry all efforts to control the action of selective agencies. Alcohol, for example, they say, does good by eliminating one way or another the unfit, undesirable from our midst. It is by preference the unstable, poorly organized person who becomes an inebriate, and when so afflicted the quicker he drinks himself to death the better for the race.

There is a considerable measure of truth in this position but we must consider it in connection with other facts.

In the first place we do not permit nature to carry her selective processes to their natural limit. The insane, inebriate, idiot and all the hosts of defective and helpless who would perish if left alone, we carefully care for. Even the woman in child-birth, who in the savage state would perish because of a narrow pelvis, we preserve by surgical means and are thus favoring the growth of a narrow



pelvised race, the limits of which I leave you to guess. If, therefore, we limit nature on the one hand, must we not limit her on the other, limit the production of the unfit or else perish ourselves under the burden?

Then again, even though it is true that bacteria, alcohol, and other selective agents may, on the whole, make for race betterment, is it not also true that in an epidemic many of good substantial stock are attacked and perish? Is it not possible that we have or may acquire a sufficient knowledge of these matters to make a better job of selecting?

I will not weary you further by citing difficulties or by pointing out the things we do not know. The subject is replete with the unknown. In order though that we may intelligently attack the problems, it is of the utmost importance that we should clearly appreciate these very limitations.

In the past the natural agencies of selection have had full sway. The unfit have been ruthlessly eliminated. Now-a-days many of the unfit are saved. The man with an incipient tubercular lesion, instead of being permitted to die is intelligently treated and saved and in no few instances becomes, according to our standards, a great man. Has this saving of the individual been a good thing for the race. We think it has. But are our standards right? Who shall say? Such are the intricate, apparently almost hopeless problems that beset us.

The future will of necessity present many of these problems in a different light. The different races of men, separated by geographical barriers developed immunity to the several diseases in their special localities. A conquering race brought to the conquered not alone the sword of conquest, but the disease to which they had not developed an immunity and they were exterminated. This kind of history cannot go on repeating itself. With the modern development of means of travel and intercommunication and contact between different

peoples, soon all peoples will be exposed to practically all diseases, and this means of elimination will probably be replaced by others, such as earning capacity for instance, and so the struggle for existence will continue, on another plane to be sure, but probably with just as great ruthlessness. The effort to control this selection is certainly a tempting problem and one which we as medical men are peculiarly fitted to attack.

The physician is of all men the most concerned with the human species and he, more than any one else, has constantly thrust before his vision the experiments Nature is continually making in this field of heredity. He has the material to work with and let us hope from him will come at last the initiative in attacking the questions at issue. If out of all this there shall ultimately issue principles upon which actions for race betterment may be founded, it is he more than any one else who is in a position, because of his peculiar and intimate relations with the people, to engraft his ideas upon the minds of the community and thus be a constructive force for good. Let us in our everyday work not forget our opportunities or step aside from our responsibilities.

I feel sure that no such appeal as this is necessary. In fact, we are all doing in our own way just the things I have suggested, yet because in my remarks I have cast some doubts upon generally accepted ideas of progress and our ability to direct the forces of Nature in the channels that make for race betterment, and because I have spoken in my introduction of the general feeling of skepticism that prevails in some quarters, I am tempted to add a few words in justification of an optimistic attitude in our approach to these problems.

Minot in his work "The Problem of Age, Growth, and Death," has shown that in the regular progression from lower to higher organisms, there is a characteristic change in the character of the cells. This change he designates as cytomorphosis and it consists in the main in a gradual differentia-



tion and specialization of function. The monocellular organisms contain within themselves all the powers necessary for subsistence, growth, and perpetuation, and as a result are immortal. Death with them literally occurs only as a result of accident. The increasing differentiation of function incident to the more complex, the higher multicellular organism results necessarily in a loss of some of these powers, of this self-sufficiency. The cells sooner or later must get into relations which make their further existence impossible—they die.

In closing the chapter on "Regeneration and Death" Professor Minot makes the following very significant remarks: "Differentiation leads up, as its inevitable conclusion, to death. Death is the price we are obliged to pay for our organization, for the differentiation which exists in us. Is it too high a price? To that organization we are indebted for the great array of faculties with which we are endowed. To it we are indebted for the means of appreciating the sort of world, the kind of universe, in which we are placed. To it we are indebted for all the conveniences of existence, by which we are able to carry on our physiological processes in a far better and more comfortable manner than can the lower forms of life. To it we are indebted for the possibility of those human relations which are among the most precious parts of our existence. And we are indebted to it also for the possibility

of the higher spiritual emotions. All this is what we have bought at the price of death, and it does not seem to me too much for us to pay. We would not, I think, any of us, wish to go back to the condition of the lowly organism, which might perpetuate its own kind and suffer death only as a result of accident, in order that we might live on this earth perpetually; we would not think of it for a moment. We accept the price."

And so we see that, whether we will or no, we have been swept into the rapids of what we have called progress. It is our heritage from the past which we cannot part with if we would. Even though we may realize and believe that the whole idea of progress, of the difference between lower and higher is essentially anthropomorphic, still we are part and parcel of the process whatever it is.

Under the circumstances a *laissez-faire* attitude of mind, with its pessimistic outlook on life and founded in the philosophy of fatalism, has no meaning. We are not only in this world of activity and realities, but we are of it. Sitting idly by while the world wags on solves nothing, but by playing the game to the limit we are at least fulfilling our destiny. If we are wrong, well and good, we did but play our part, if we are right well also. In any event a life of activity—of constant effort is the only life that offers health of body and mind as we know it, and more to the point yet—happiness.

## SALPINGO-OTITIS MEDIA.

By S. BUSBY ALLEN, M.D.

I was tempted to place Long Island before this title to emphasize what I believe to be true, for owing to conditions which prevail on Long Island, we frequently see diseases of the middle ear following a different course than the same affections in other parts of the State. First,

salpingitis of the eustachian tube is more apt to proceed to tympanitis and both go on to an otitis. Second, catarrhal inflammations are more apt to be followed by hypertrophic and also hyperplastic changes. Third, that owing to the remarkable aseptic soil and climate of Suffolk



County the catarrhal inflammations less frequently pass over to the infectious form. Fourth, that all things considered we have a larger percentage of catarrhal inflammations and a smaller percentage of purulent inflammations. This is my thesis upon which I hope to enlarge as material accumulates and experience broadens.

But any one of these foregoing propositions would more than suffice for the time allotted to this paper. I consider it more useful to proceed and endeavor to illumine the subject at the head of this paper, by a consideration of the symptomatology, etiology, pathology and prognosis. The inner side of the tympanum, and all the middle ear as well as the eustachian tube are lined with mucous membrane richly supplied with glandular structure; this keeps the membrane moist.

Increase this normal action sufficiently and you have an inflammation; a discharge takes place; this discharge is called catarrhal. Add to this inflammation some infection from without and you have a purulent inflammation. This infection must always come from without, if it is simply an inflammation of a mucous membrane; if it comes from within as it frequently does then the deep structures are involved, the tissue underlying the membrane. Salpingo-tympanitis, however, is usually catarrhal and occurs in the order named, though we have instances in which the tympanum is the primary seat of the inflammation. The affection usually arises from an acute coryza, or an acute naso-pharyngitis due to obstruction in the nose or pharynx; in the nose we have deflected septum, spurs, enlarged turbinates and polypi; in the naso-pharynx, adenoid vegetations which become enlarged with blood, causing venous hyperemia of the walls of the eustachian tube, partially or wholly closing the tubes. The patient will come to you complaining of stuffiness in the ears; he usually complains of wax in his ears, and he relieves himself by putting his fingers in his ears, and the exhaustion of air as he withdraws his

fingers gives him temporary relief; in severe cases he will complain of actual pain in the pharynx, tonsils, or larynx, as though a foreign body were lodged there. Subjective noises are present, as of escaping steam, bells, or a whistling sound; some impairment of hearing will occur. If the salpingitis has progressed to a tympanitis, an examination of the external canal will show enlargement of the anterior and posterior folds, the short process will be prominent, with fore-shortening of the handle of the malleus caused by retraction. Light reflexes will be lost, but no congestion of the tympanum may be present. The next step in the process will be congestion of the middle ear, followed by a slow progressive inflammation, causing retraction of the drum walls, and shortening of the tendon of the tensor tympani muscle, causing the tip of the manubrium to press against the inner tympanic wall where it will become adherent; then we have a fully developed chronic catarrhal otitis media, which may go on to a hypermatropic process or to dreaded sclerosis or hyperplastic changes in the cavity walls, and, indeed, of the cells of the mastoid as well. But this chronic catarrhal otitis may never have been preceded by an acute attack of the tubes, or tympanum or cavity walls, the process may have been chronic from the first; the condition may begin in early life from the presence of a moderate amount of adenoid tissue in the vault of the pharynx, there may never be any of the usual symptoms of adenoids, bad night dreams, sleeping with the mouth open, nasal obstructions, and it may only be noticed that the little patient seems to have more colds than ordinary children. This small amount of adenoid tissue becomes inflamed and venous engorgement of the eustachian tube and tympanic cavity takes place and the circulation is interfered with so often that it becomes a chronic interference with the entire tympanic circulation, and although the adenoids may be removed, or disappear in later life, the changes within the middle ear may persist or even increase. If these



changes have gone on to hyperplastic changes, treatment may be of no service. The whole process may have been so insidious as never to have attracted attention till the disease has advanced to a serious or hopeless condition. It is well to remember that the great majority of these cases occur between the ages of thirteen and thirty; however, no period of life is exempt. The affection is usually bilateral, though one ear is usually more advanced than the other. We are endowed with hearing far in excess of that necessary to carry on the ordinary occupations of life, and we may not notice the gradual loss until a marked degree of impairment has taken place. It is not the loss of hearing, but the tinitus that is apt to bring the patient to the doctor for relief. It is surprising the number of symptoms that bring the patient to the doctor other than the loss of hearing. Thus, the feeling of being stopped up on one side when sleeping on that side, tinitus synchronous with the heart pulsations, bubbling sounds in the ear when blowing the nose, snapping and crackling in the ear when deglutation takes place, occasionally vertigo, due to the presence of secretions in the tympanic cavity; the liquid upon change of bodily position gravitating over and pressing on the round window; or it may be due to sudden inflation of air when blowing the nose causing too great pressure on the round window.

When the patient is very young the symptoms are quite distinct of themselves. In the otitis that accompanies scarlet fever and more especially measles, we may think we have some still graver complication; the temperature may raise to  $106^{\circ}$ , the attack

is apt to come on at night, and to be ushered in with violent vomiting and convulsions.

The child will be tossing in bed throwing his arms up and carrying them to his ear, taking snatches of sleep to awake with a scream, at this period paracentesis of the drum will give instant relief and the child will pass off into a long sleep, and if scarlet fever or measles are not present, the temperature will usually fall to normal; in this case it usually ranges from  $102^{\circ}$  to  $104^{\circ}$ , but even here it may reach  $106^{\circ}$ . The same fall of temperature takes place when the drum ruptures and the ear discharges; the drum of the child is extremely thin and yields easily to pressure from within. When you have this spontaneous rupture of the drum, even though a large part of the drum, may be destroyed, there is apt to be a return of the fever either of a remittent or intermittent type. This discharge following rupture may last an indefinite time and the patient is never again free from the danger of mastoid involvement; until the discharge ceases and the drum is replaced. An occlusion of the opening in the drum or an naso-pharyngitis may result in mastoid trouble at any time, for though it may not be purulent at first, if it continue any length of time it is sure to become purulent, and necrosis of the osseous tympanic wall takes place. This perforation usually occurs in the inferior part of the tympanum and so good drainage is afforded. If the perforation takes place in the upper segment the danger is greatly increased as the cavity will never be completely drained and occlusion is more apt to occur, and of course the difficulty of healing is evident.



# CHRONIC CONSTIPATION IN INFANTS AND CHILDREN.\*

By LE GRAND KERR, M.D.

BROOKLYN, N. Y.

IT is not an easy matter to properly place chronic constipation in children, for while it is a relative term and the condition is frequently only a symptom, it is a symptom which leads commonly to disease.

In the minds of the laity, constipation exists only when the bowels have not been evacuated as frequently as usual.

Constipation may be said to exist when there is lessened frequency of the movements, when the act of evacuation is more difficult of accomplishment than normal, when the stool is drier than normal, and when the total amount of the feces is much reduced.

More than one of these factors may be present at the same time.

The average young infant at the breast moves the bowels two or three times daily, but there are occasional instances in which an infant will have but one evacuation daily, and even if observed over a protracted period there may be no untoward effects:—in such cases constipation cannot be said to exist.

On the other hand, the bowel may be evacuated with normal frequency and yet the amount evacuated be so small that constipation actually exists, and in time will show its effect upon the general health of the infant.

The same thing applies if the evacuations are sufficient in number and in amount, but are deficient in fluid, causing the passage of hard, dry feces.

Again, the bowel function may be perfectly normal in nearly every particular, the child having one or more evacuations daily, but the time of the passage of the mass will be so slow that a latent constipation actually exists.

## THE CAUSES OF CHRONIC CONSTIPATION.

These may be divided into causes within and causes outside the bowel.

Of the first division, we have the position and development of the infant's intestines and rectum which favor bowel inactivity.

The glands of Brunner and Lieberkuhn are not fully developed in early life and this underdevelopment favors constipation by tending to dryness.

There may also be a mechanical obstruction in the intestine.

In older children the chief causes within the bowel are laxity of the mesentery and the winding course and size of the sigmoid. Occasionally, we find at autopsy, that the right side of the abdomen is practically filled by the sigmoid as it extends over on this side.

This latter finding is, I believe, due to a condition of the bowel which has been studied and observed enough to warrant its recognition as a complete pathological entity—congenital dilatation of the colon.

This has an obscure etiology, but a rather definite symptomatology. We must divide the cases into two groups—one that is evident soon after birth, and the other later.

It is not long before the abdomen becomes enlarged and the usual accompaniments of an upward pressure of the diaphragm—dyspnea, unrest, and possibly cyanosis are added. If enemata are given, a large part of the fluid is retained and the effect is unsatisfactory.

Shortly after the taking of food, the gaseous distension of the abdomen is increased.

Of the causes which are not within the bowel, we have constipation as an accompaniment of many of the acute and chronic diseases. A high or prolonged elevation of temperature naturally favors lessened secretion in the

\*Abstract of paper read before the Williamsburgh Medical Society, October 12, 1908. [Published in *American Medicine*, October, 1908.]



intestine. Any disease, whether acute or chronic, which considerably reduces the tone of the musculature also diminishes peristaltic movement.

Now, when the habit of constipation, even of short duration, is once established, it tends to chronicity.

Fear of pain is a very fruitful cause of chronic constipation, and an anal fissure is often the real cause of the trouble. Spasm of the sphincter without fissure is uncommon.

The chief of all causes is faulty diet. In nurslings, this usually consists of a lack of fresh water; in bottle-fed babies to a deficiency of fat or an excess of proteid.

Likewise in older children, if there is a lack of those articles of food which stimulate peristalsis, constipation results.

The prolonged use of a sterilized or pasteurized milk will result eventually in constipation.

I have not yet observed a case in which chronic constipation in the nursing mother was a direct cause of a similar condition in the infant, with the exception of those instances due to drug ingestion. Constipation in the mother is a most prolific cause of digestive disturbance in the babe, and this in time leads to diarrhea which is quickly followed by constipation, and it is the indigestion in the babe and not the constipation in the mother, which is the cause. Tea drinking acts as an active cause of constipation. A very close second to diet as a cause, is habit. Let there once be an interference with the usual time of attention to the bowel function and the probability of the establishment of a chronic state of constipation is great.

*The Symptoms.*—The symptoms for a time may remain purely local. More often the general health and the nutrition are interfered with.

Usually there is more or less flatulence, accompanied or unaccompanied by colicky pains, or the irritating mass may excite some inflammation. When this occurs, it is evidenced by tenderness and by the appearance of mucus and possibly blood in the stool.

Such children are usually restless, fretful and anemic.

The absorption of toxins causes nervous symptoms of a varied and sometimes severe nature.

In the rachitic child, the symptoms are more severe.

We cannot, however, rely upon these symptoms alone, but there must be an inspection of the stool. Individualizing each case we judge more by the character than the frequency of the movements. We make note of the frequency, the size, the consistency, the ease of passage and, if necessary, the period occupied by the passage of food through the digestive tract.

*Diagnosis.*—The diagnosis of chronic constipation alone is not sufficient;—there must be a determination of the cause, and of the site of the trouble.

The determination of the cause involves primarily a most searching examination into the diet and habits in particular and the health in general.

With regard to the site of the trouble, a test meal is of value. Under normal conditions the food of a nursing requires from thirty to thirty-six hours to pass from mouth to rectum. One meal is colored with carmine or charcoal and the time of passage of the first red or black stool noted.

This shows whether we are dealing with a latent constipation.

*Treatment.*—Treatment is hygienic, dietetic, local and medicinal.

*The Hygienic Treatment* requires that the child be supplied with abundant sunlight and fresh air. Free exercise of the sort that calls all of the musculature into activity is essential. A regular habit must be early inculcated. How early is it possible to train an infant to regular habits as regards the bowel function? From a large experience, I believe that at the sixth week of life such training should begin. Persistency soon brings its reward.

In the older child, nothing should interfere with its habit of attention to the bowel function.

A similar time must be selected each



day, if a successful habit is to be formed.

*The Dietetic Treatment* will vary as it affects infants or older children.

If a breast milk is too rich in proteid and is low in fat, regulation of the diet of the mother and suitable exercise will correct it.

If poor in both elements, forced feeding and enforced rest are indicated.

Deficiency in the fat alone is regulated by the administration to the infant of 1 or 2 drams of a 5 per cent. to 16 per cent. cream directly before taking the breast. Olive oil may be useful in place of the cream.

Water should be given to all infants, and when over two months of age, the infant will be benefited by oatmeal water. I would mention the use of orange juice, not alone for its laxative effect, but on account of its antiscorbutic properties.

Mixed feeding will be the solution for some few cases. If these measures fail, we are justified in the use of suppositories or enemata until we can undertake early weaning.

We are not so handicapped when the infant is artificially fed. It is then a simple matter to change the proportions of fat, proteid or sugar, as we find either element at fault.

Here again the use of oatmeal water as the diluent is of known benefit.

As the child approaches the time for accessory feeding, the dietetic treatment is simplified.

Cooked fruits are valuable. The different cereals, whole wheat or bran bread, green vegetables and potatoes all add elements which will tend to correct the constipation.

*The Local Treatment* involves massage of the abdomen. The course of the colon is followed by the movements of kneading.

Cool sponging with immediate towel friction of the abdomen will benefit mild cases.

Suppositories are immediate in result when the site of the trouble is in

the rectum. Glutin is less irritating than glycerine and therefore less effective.

Enemata of water are effective and particularly if glycerine be added to them. In older children, I have obtained some good results from a cool spray directed against the abdomen for from one to three minutes, at the time of the morning bath.

Vibratory treatment is much like massage;—if it can be carried out properly, it is efficient.

In the treatment of congenital dilatation of the colon, there is scant success from any known method, except the local.

Enemata are ineffectual unless fortified by vigorous abdominal massage to empty the bowel. After its accomplishment, the application of a tight, well fitting bandage gives all the possible relief that we may expect.

*The Medical Treatment* should not be indulged in until all other measures have resulted in failure. Drugs must be cautiously given and not to the exclusion of the aid offered by the previously mentioned methods. Medicine should be used, if at all, in conjunction with hygiene, diet and local measures.

For the immediate evacuation of an irritating mass in the bowel, the use of a single dose of castor oil may be helpful.

If an examination of the stool shows that there is more or less bile deficiency, calomel is indicated.

For more extended use, carbonate of magnesia in 2 to 5 grain doses is effective, as is also the milk of magnesia.

And so we might go on and mention numerous medicines and combinations of the same:—phenolphthalein, licorice, rhubarb, senna, and a host of others which are more or less effective.

But after all, for steady systematic use, there is no remedy which approaches in efficiency the various preparations of cascara sagrada.



# INTESTINAL OBSTRUCTION DUE TO MECKEL'S DIVERTICULUM.

By RICHARD WARD WESTBROOK, M.D.

MECKEL'S diverticulum is formed by the persistence of the vitelline duct or yolk stalk which connects the yolk sac with the intestinal canal a short distance above the cecum. This disappears in early rætal life, excepting a thread-like remnant which passes from the convex border of the loop of the ileum to the umbilicus. This remnant ordinarily disappears in turn as the development of the intestine goes on. If the normal atrophy and disappearance of the duct are not completed there remains a diverticulum more or less patent either remaining fast to the umbilicus by, usually, a fibrous band, or else losing its connection with the umbilicus, remaining as a simple projection from the bowel free in the abdominal cavity. The free variety may attach itself to the mesentery or other abdominal organ, or be found at times in the hernial canals. It produces intestinal obstruction in the adherent form, chiefly by acting as a band, although it may also produce occlusion of the gut by the angulation due to traction, etc. Obstruction from an adherent diverticulum may occur by a loop of gut passing under it and becoming twisted upon itself, thus forming a volvulus.

In the case here reported the diverticulum was nowhere adherent but, in its wanderings in the abdominal cavity, had found a small gap in the mesentery through which it worked its way. The diverticulum was some three and a half to four inches long, and passed for its entire length through the small gap in the mesentery hardly larger than would admit the tip of the little finger. In some manner strangulation occurred. Having gotten itself into the noose, it was completely snared and could not withdraw itself. When discovered by me it was of the shape of a short thick sausage with a narrow constricted at-

tachment to its loop of bowel, through which the bloody fluid with which it was tensely distended could not return, although after removal its patency was demonstrated. In looking over the reports of cases of intestinal obstruction due to this anomaly, I have been able to find no instance exactly similar. The actual obstruction in this case was not due to angulation of the bowel at the site of the attachment of the diverticulum but in some manner to the snaring off of the mesentery of some four or five feet of small intestine, producing an internal strangulated hernia. The exact manner in which this strangulation was accomplished could not be determined in the hurry of the desperate operation. On excising the diverticulum at its isthmus the strangulation of intestine and mesentery was immediately relieved.

Meckel's diverticulum is found in from two to three per cent. of all cases examined at autopsy and is apparently more common in males. It is one of the important causes of intestinal obstruction, which makes its presence a menace to its possessor. It is more common in early life (children or young adults) than in late life, and the attached form produces obstruction from three to four times as often as the free form. Of fifty-four cases mentioned by A. E. Halsted, in 1902, there was a mortality of nearly seventy per cent. following operation.

The present case was that of a man fifty-six years of age, stableman, alcoholic, and with no previous history of abdominal pain or trouble of any kind, beyond a moderate constipation which was always overcome with senna or salts.

Three weeks ago to-day the patient felt as well as usual and did his day's work up to six P. M. At that time he began to feel cramps in the lower abdomen, and went out and got a drink of whiskey. He returned to the stable feeling no better and drank water freely, after which he vomited, and the vomiting persisted more or less through the night. The pain re-



mained general in the abdomen below the umbilicus with frequent paroxysms of increased pain. The bowels did not move when the effort was made to have them do so, and this he attributed to the fact that he had had a very free evacuation on the morning of the day of the onset. He made no attempt to get home that night, although he walked some distance from the stable hoping to find an open drug store, but unsuccessfully. During most of the night he remained sitting in his chair in the stable, where he was found by the ambulance surgeon early the next morning. He was apparently not very ill when brought to the hospital, and it was a question with the house staff as to whether he belonged on the medical or surgical side. It was decided to place him on the surgical side with the provisional diagnosis of a possible appendicitis. I saw him about ten A. M., at which time his abdomen was only moderately distended. He was not vomiting, and an enema brought away only a trace of fecal matter, but no gas. I could distinctly feel, through the thin abdominal wall a mass apparently movable extending across the lower abdomen. The mass felt heavy as though it were infiltrated bowel, and suggested strongly to my mind a mesenteric embolism or thrombosis. The diagnosis of an early intestinal obstruction, partial or complete, was made and operation advised. Before the operation was commenced the patient vomited very freely, chiefly water which he had drunk, and later brownish material from the upper bowel. He was slightly cyanotic, and looked quite ill, but with a pulse only moderately elevated and a normal temperature.

A median incision revealed blood-stained peritoneal fluid and a coil of dark mahogany-colored small intestine immediately presented. On enlarging the incision, three almost black coils of densely congested and œdematous bowel were seen among the surrounding bowel of nearly normal color. The thick œdematous mesentery, with its deep discoloration due to obstruction of its circulation, as well as the moderately distended, swollen and heavy bowel, made me still further convinced that it was a case of mesenteric embolism or thrombosis. The age of the patient, as well as the fact that four or five feet of intestine were thus involved, increased the likelihood of that diagnosis. On attempting to lift the bowel to prepare to resect it, it was apparent that it was constricted in some manner, making an internal hernia. Turning it up out of the incision, I discovered near the pelvic brim, surrounded by bowel not more than moderately congested, a black structure, looking like a distended and gangrenous gall-bladder, which was quickly determined to be a Meckel's diverticulum as described. It was immediately clamped off, the stump in the bowel was surrounded by purse-string suture and inverted, and the dis-

tended diverticulum brought out of the abdomen intact, without leakage of its infected contents. The constriction of bowel was relieved at once, and it was evidently slowly regaining some color under hot towels. It was decided to replace it, and the incision was closed with drainage of a few wicks into the general abdominal cavity at the lower end of the incision. The most compromised-looking loop of bowel, which was thick, friable, lymph-covered, and very dark in color, was sutured in the incision so that it might later be opened if necessary for the production of an artificial anus. The patient at once improved in every respect, but after 36 hours distension and vomiting became excessive, and the bowel was opened in the wound and irrigated out as far as possible in the proximal direction. The relief was immediate and life-saving, and since then the patient has gone on to recovery with an artificial anus which will require later closing.

It did not seem to me, in this case, that the imprisoned diverticulum formed a bridge of construction over a large loop of bowel, as is frequently the case in Meckel's diverticulum. It seemed possible, rather, that the noose of ileum formed by the loop of bowel between the origin of the diverticulum and the point where it was held, had surrounded a considerable area of bowel and mesentery, and strangulated it. It was probable that the gap in the mesentery through which the diverticulum introduced itself was in the mesentery of the lower ileum, as such abnormal openings are more often found in that locality. The length of this loop between the point of the mesenteric slit and the site of origin of the diverticulum, I also could not determine, being intent on hurrying the operation through and saving the patient. There were no adhesions of the isthmus of the diverticulum to the borders of the mesenteric slit, and everything indicated that the condition was entirely an acute one, the mechanical conditions occurring immediately before the onset of symptoms.

*Note:* The patient reported above died five weeks after operation of a cardiac and general weakness, induced in part by the presence of the fecal fistula in the small intestine. No abdominal complication was apparent. No autopsy was allowed.



# TWO CASES OF ECLAMPSIA, CLINICALLY SUGGESTIVE OF THE NEWER PATHOLOGY.

By O. PAUL HUMPHSTONE, M.D.

Obstetrician-in-Chief to the Jewish and Samaritan Hospitals; Associate Obstetrician to the Methodist Hospital.

ECLAMPSIA has been recognized clinically for centuries and various theories as to its cause have been advanced. Mythological, religious, mechanical and toxic.

The discovery of albumin in the urine of these cases caused attention to be directed to the kidneys as the chief organ pathologically involved and a failure of its excretory function with retention of its excretions was determined as the cause of the trouble. More careful and fuller investigation of the organs in bodies of women who have died with symptoms of Eclampsia and its allied diseases, Pernicious vomiting of pregnancy, and Sudden coma and death in pregnancy, have shown that other organs than the kidneys are attacked and the effects on all these organs are similar to the effect of certain organic poisons on these tissues. An acute degeneration of the functional cells of the excretory organs particularly the liver and kidneys, with resulting hemorrhages in the excretory organs and with emboli of the broken down functional cells from these organs being carried to distant organs particularly the brain and lungs, causing thrombosis, edema and hemorrhages there. This degeneration is also found in the heart muscle.

Foulhrod has recently discussed our knowledge of the causes of these toxemias. They are, he says, intestinal indigestion, disturbances in the parathyroids, and thyroids, disturbances in the fetal organism, in the placenta, in the liver and the kidneys.

Here then is the brief sum of our present knowledge. Some of these causes mentioned may belong with the pathological effects rather than the cause. At any rate at the present time we must recognize as the proba-

ble basic cause of eclampsia some metabolic disturbance either in mother or fetus due to the fact of pregnancy existing in certain women, producing an organic poison in the mother's body.

Further it is possible I think to recognize cases clinically, in some instances, wherein the process is most disastrous primarily to the liver or primarily to the kidneys. This should help us in prognosis. The primarily liver cases being of severe type and regularly fatal while the outlook in the primary kidney cases is better.

It has seemed to me that the two cases I report with practically the same history yet with characteristic differences exemplify what I have just said.

Mrs. 3702—Jewish Hospital, V. Para, was admitted in coma with the following history: She had been confined twelve hours before admission normally of twins by a midwife—two hours later she had a convulsion typically eclamptic and in four hours had another followed by coma. Her examination showed very little general edema but the patient was deeply jaundiced and her urine was heavy with bile and contained only a moderate amount of albumin, the blood pressure was only 140. The liver seemed about normal in size. She was treated by blood letting, saline infusion, Murphy irrigation, her stomach was washed, and mag. sulph. 3I with a pint of saline left in it. She received nitroglycerine gr. 1-100 every hour. The convulsions were controlled by chloral gr. XXX and sodium bromide 3II in the bowel. It was impossible, however, to restore the equilibrium of excretion, because of the profound changes which were evidently present in the liver and the case died of pulmonary edema at the end of twenty-four hours. Autopsy was denied. The very interesting differential nitrogen examination of the urine was not made in this case because the patient died before a twenty-four hour specimen was available. This case typifies the advanced profound toxemia with extensive irreparable damage chiefly in the liver with sudden eclamptic storm. The patient not having complained during her pregnancy.



In contrast clinically to the above case is the following:

Mrs. 3801 of the Jewish Hospital. II Para, was admitted in coma with the following history. Much headache during her last months of pregnancy. She had been confined normally of twins ten hours before admission. Five hours later she became nauseated, dizzy, had a blinding headache followed by a convulsion. She again became conscious after the convulsion but soon had another and was sent to the hospital in coma. Examination showed the patient very generally edematous, no jaundice. Her urine was smoky but not bile

stained. It boiled solid and was a mass of granular casts. Her blood pressure was 170. She was placed on the same treatment as the former case and went on to an uneventful convalescence. This case suggests a severe intoxication with the chief effect on the kidneys, which organs were able to quickly recover their equilibrium of excretion and carry off the poison in response to our efforts. These are two types of toxemia of pregnancy; a subject which presents many types, and many problems in pathology and pathological chemistry which must be solved before we can place the treatment on a firm scientific basis.  
105 Greene Avenue.

## PYELITIS OF PREGNANCY

### THE RESULTS OF POSTURAL TREATMENT AND RENAL LAVAGE.\*

By PAUL MONROE PILCHER, A.M., M.D.

TRUE pyelitis of pregnancy is an acute catarrhal inflammation in the pelvis of the kidney which occurs during the course of a normal pregnancy. It is acute in its onset, usually unilateral, affecting more frequently the right kidney than the left kidney, running an acute course and tending to spontaneous recovery without permanent injury to the kidney. The cases which have been treated by the writer include only those cases in which before the pregnancy, there were no symptoms of pyelitis.

The writer's conclusions as to the etiology of the condition are based entirely upon his own studies and they are: *First*, that a few cases are brought about by toxic influences and hematogenous infection in a kidney whose vitality has been lowered, owing to the occurrence of a pregnancy. This is probably the cause in pyelitis occurring in the early stages of pregnancy. *Second*, through the cystoscopic examination it would seem probable that the distortion of the vesical portion of the ureter, due to the presence of an enlarging uterus could easily cause an obstruction to the free flow of urine into the bladder and favor a catarrhal

inflammation of the ureter and the pelvis of the kidney. The infection being hematogenous or by direct infection from the bladder. *Third*, pressure and distortion of the ureter above the brim of the pelvis due to the enlarging uterus after the sixth month.

*Symptoms*—The usual history of a case is that of a woman in somewhere from the fourth to the eighth month of her pregnancy, who is, without discoverable cause, seized with severe cramp-like pains in some portion of the abdomen, accompanied by nausea and vomiting, and usually a slight chill. The pain gradually localizes either in the bladder or in the region of one of the kidneys; there is a sharp rise in temperature and the patient feels decidedly ill. Urination comes more frequently and the patient complains of some burning; oftentimes the chill with rising temperature is repeated and the patient has recurrent pains in the region of the kidney lasting for a few days.

*Blood Examination*—Shows the picture of a suppurative process with, usually a disproportionately large percentage of polymorphonuclear cells; the urine is usually acid and contains pus in varying quantities.

*Physical Examination*—Shows the typical symptoms of an inflamed condition of the kidney.

\* Abstract of a paper read before the Brooklyn Gynecological Society, March, 1909.



*Cystoscopic Examination*—Reveals a bladder normal excepting for the pressure of the pregnant uterus upon it, and a catheterized specimen will show pus mixed with urine, from one kidney, while the other is normal. Usually, after a period of three or four days, the temperature drops gradually and after ten to fourteen days it becomes normal. The secretion of pus from the kidney usually lasts for a considerable period of time after all symptoms of inflammation have subsided.

#### REPORT OF CASES.

CASE I.—Patient aged 19; primipara; at the end of the fifth month of pregnancy patient developed an acute pyelitis of the right kidney. Was treated by lavage of the renal pelvis with 20 per cent. argyrol solution, repeated three times at intervals of one week with subsidence of symptoms, and normal delivery at full term.

CASE II.—Patient aged 28; twopara; at the end of the third month of pregnancy developed an acute pyelitis in both kidneys; became septic; was improved but not relieved by renal lavage; foetus removed from uterus and patient made uneventful recovery.

CASE III.—Primipara; patient aged 26; at the end of the seventh month of pregnancy developed an acute pyelitis of the left kidney. Repeated irrigation of pelvis of left kidney and elevated head and trunk posture resulted in complete recovery of patient, who went on to normal delivery.

CASE IV.—Patient aged 19; at full term suddenly developed a pyelitis of the left kidney; five days later was delivered of normal child; three days later symptoms of pyelitis increased; pelvis of kidney irrigated and head of bed elevated; patient made an uneventful recovery.

CASE V.—Primipara; patient aged 21; in the sixth month of pregnancy developed a double pyelitis; was treated by irrigation of the bladder and elevation of the head and trunk; patient made an uneventful recovery.

CASE VI.—Multipara; patient aged about 25; in the ninth month of preg-

many developed an acute pyelitis of the right kidney; pelvis of kidney irrigated; patient placed in elevated head and trunk posture. Uneventful recovery.

CASE VII.—Patient aged 20; in the seventh month of pregnancy developed symptoms of acute appendicitis but pain and temperature were not relieved by removal of appendix. Cystoscopic examination showed pyelitis of both kidneys. Pelvis of each kidney irrigated and elevated head and trunk posture assumed. Patient made uneventful recovery. Patient had been delivered of a seven months foetus following removal of appendix.

CASE VIII.—Patient aged 26; primipara; during the seventh month of pregnancy developed an acute pyelitis of the left kidney. Pelvis of kidney irrigated and patient placed in elevated head and trunk posture; patient made an uneventful recovery and then went on to a normal delivery.

*Conclusions*—From a detailed study of these cases the writer concludes that in the ordinary case of acute pyelitis of pregnancy it is safe to wait eight or ten days before attempting to catheterize the ureters. If at the end of this time there be a persistent temperature with pain and pyuria, or even without pain, it is indicated to pass the catheter to the pelvis of the affected kidney to drain it thoroughly and to instil one dram of 25 per cent. solution of argyrol.

In a case where there is a large amount of retention in the pelvis of the kidney with considerable pus present, it is indicated to leave the ureter catheter in place after washing the pelvis of the kidney, and every hour irrigate the renal pelvis with an antiseptic solution.

Abortion or premature labor is seldom necessary in this class of cases, but where there is a bilateral involvement with persistent pain and pyuria that does not decrease, and a continuous fever after trying the prescribed methods, termination of the pregnancy in the interests of the mother is justifiable.



# LONG ISLAND MEDICAL JOURNAL

A Forum for the Discussion of all Topics Involving the Medical Profession and especially that of Long Island.

EDITOR-IN-CHIEF

PAUL MONROE PILCHER, A.M., M.D.

ASSOCIATE EDITOR

JAMES MCFARLANE WINFIELD, M.D.

EDITORIAL OFFICE :

386 GRAND AVENUE, BROOKLYN, N. Y.

Further Information on advertising page 3

JULY, 1909.

## PANCREATITIS.

WITHIN the past ten years the subject of inflammation of the pancreas has received considerable attention both from pathologists, internists, and surgeons. At first, when the head of the pancreas was found to be indurated it was pronounced incurable, an intrinsic disease of unknown origin. Then it was found that the gall bladder frequently was the seat of disease, and its treatment resulted in a subsidence of the pancreatic disturbance as well. Thus a definite relationship was soon established between inflammation of the gall bladder and its ducts, especially the common duct and the chronic interstitial form of pancreatitis. As a striking example of this, Mayo found out of 168 operations for pancreatic disease, 81 per cent. were due to, or accompanied by gall-stones somewhere in the biliary passages. The causation of the disease is usually mechanical in its origin, stagnation of the pancreatic secretions being caused by partial or complete obstruction of its ducts. Acute septic infections may be regarded as the chief exciting cause, whatever may be its method of entrance; gastro-intestinal disor-

ders are responsible for nearly one-third of the cases; mumps according to Egdahl is the causative factor in 10 per cent. of the cases.

In the symposium upon pancreatitis held by the *Mississippi Valley Medical Association*, William D. Haggard gave the following as his conclusions:

1. Gall-stones are etiologically associated with pancreatitis in from nearly one-half to over three-fourths of the cases (43 per cent. of Egdahl to 82 per cent. of Mayo).

2. Lodgment of a stone in the ampulla of Vater temporarily or permanently causing retrojection of the bile into the pancreatic duct (Opie) causes acute hemorrhagic pancreatitis.

3. Bacterial invasion is secondary to some unphysiologic or mechanical internal injury.

4. Gastro-duodenitis appears to be responsible for about one-third of the cases.

5. Mumps cause about 10 per cent. of the cases of pancreatitis, and some other infections may likewise cause it by metastasis.

6. Fat necrosis with acute hemorrhagic pancreatitis is caused by some injury to the gland cells, and access of bile or enterokinase which activated the hemolytic property of pancreatic juice.

Our first knowledge of the pathology of this condition was gained at the autopsy table, and in this way we learned the terminal phases of the disease, rather than the true conditions as they existed *in vivo*. It had been met with frequently during operations, but its importance had not been appreciated. The acute form of the disease runs so violent a course that its pathology is difficult to determine, for there is usually a rapid destruction of the entire parenchyma of the gland (Schroeder); while the chronic form is characterized by hyperplastic changes with degeneration and destruction of the glandular elements.

The diagnosis of pancreatitis is not always difficult, provided the proper



chemical tests are made of the urine and feces. We cannot as yet accept the Cammidge reaction as conclusive, but we must consider that a positive reaction is very suggestive of pancreatic disease.

Ochsner in *Surgery, Gynecology and Obstetrics* for December, 1908, in discussing the diagnosis of pancreatitis, says:

Until the beginning of the present century, the clinical diagnosis of pancreatic disease was limited to recognition of traumatic injuries, pancreatic cysts more especially, and malignant growths. At the present time we may add to these conditions a fairly positive clinical diagnosis of acute and chronic pancreatitis in at least a portion of the cases which come under our care suffering from these conditions.

So large a proportion of patients suffering from gall-stones or from an infection of the gall-bladder and ducts also suffer from pancreatitis that the general symptoms of cholecystitis should make one suspicious of the probable presence of pancreatitis. . . .

A common symptom which is present in cases of pancreatitis is the pain radiating to the midscapular or the left scapular region.

In acute pancreatitis the difficulties are increased, because the attacks simulate many other acute inflammatory conditions occurring in the upper abdomen. The most salient features have been put down by Ochsner as follows:

In acute pancreatitis there is a terrific pain in the right upper quadrant of the abdomen, the patient is severely shocked, nausea and vomiting is usually present. The abdominal muscles are extremely tense. Tympanitis develops rapidly but is more marked in the upper right quadrant. Sugar is sometimes present in the urine.

He also directs attention to the steady rising of the pulse from the onset. There is quite generally an increase of temperature which rises very high in the very acute cases.

The treatment seems to be essentially surgical. Thus Mayo says:

The surgical treatment of acute fulminating pancreatitis presents difficulties that in many cases are unsurmountable. The patient, often a fleshy alcoholic male, exhibits all the symptoms of an acute perforation of some viscus, and when first seen is in a state of more or less collapse and a bad subject for an operation of any kind. The large majority of patients die whether operated on or not, yet immediate operation offers the best prospect of cure, and while the mortality is exceedingly high, it is not prohibitive. Of 59 cases reported by Robson, 23 recovered. . . .

The greatly swollen pancreas, having a semifluctuating "feel" showing gross hemorrhagic infiltration, should be incised in several situations. Free drainage should be furnished as a rule, through the anterior abdominal incision rather than through the posterior. The drains should be brought to the surface through split-rubber or glass tubes. Should there be stones in the gall-bladder or ducts, or an acute infection of the biliary passages, removal of the stones and bile drainage through a right lateral incision should be done provided the patient's condition will permit. If any degree of jaundice is present bile drainage is essential.

In chronic pancreatitis the treatment depends on the etiological factor:

The fundamental principle of the surgical treatment consists in temporary or permanent disassociation of the pancreatic and liver ducts by relieving the common duct of as much of its bile-carrying function as possible.

And again Mayo says:

The surgical treatment of chronic pancreatitis is not usually directed to the pancreas itself unless pancreatic calculi or other foreign bodies be present, but rather to the biliary tract, and is best accomplished by diverting the bile to the surface by means of a cholecystostomy, or to a new point in the gastro-intestinal canal by cholecystenterostomy.

The results have been most satisfactory. One great lesson is taught



us in reviewing this work—to wit., that the gall-bladder and ducts should never be moved unless of necessity, for at any time a diseased condition of the pancreas may arise, the successful treatment of which depends upon the presence of the gall-bladder.

### THIRTY-FOURTH REGULAR MEETING OF THE ASSO- CIATED PHYSICIANS OF LONG ISLAND.

THE regular June meeting and outing of the Associated Physicians of Long Island was held at Blue Point, on June 26, 1909. The members met at the Great South Bay House and there were about seventy-five present. The entertainment committee provided a special train which left Jamaica at 1.30, arriving at the Point early enough to afford the members a pleasant afternoon in the country.

The meeting was called to order by the President, Dr. De Lano, who made an address to the members which was listened to with interest. The recommendations contained in the address were acted upon from the floor without the appointment of the usual committee. The president dwelt especially upon the subject of health and disease on Long Island, and suggested measures for increasing the membership of the association.

The members discussed a proposition to omit or greatly curtail the scientific portion of the program at the June meeting and to make this meeting more distinctly a social affair. It was proposed that there should be no scientific program for the meeting. Others thought there should be a scientific program, but

that the papers should be read by title and a copy of the papers to be read sent before the meeting to all of the members, and that simply the discussion of the papers to be in order at the meeting itself. The subject was finally submitted to the board of directors for final action.

The following men were elected members of the society: Doctors R. F. Bliss, R. Hazen, W. C. Willis, F. L. MacCrea, A. A. Atwood, L. A. Whitehouse, A. Brinkman, S. E. Moore, R. D. Grimmer, J. Bookbinder, J. Meyer, C. E. Stammeler, T. E. Brown, F. E. Carpenter, E. P. Lawrence, B. P. MacLean, J. W. Stokes, S. W. Bates, W. H. Davis, G. R. Manning, J. J. Kindred, F. J. Monahan, H. O. Hoffman, W. Sherman, W. Rhane, H. M. O'Reilly, O. J. Wilsey, B. W. Seaman, L. L. Michel, A. L. Higgins, C. D. Cleghorn, G. G. Cochran, H. E. Brown, G. P. Griffing, R. Waldo, W. B. Rosecrans, C. L. Atkinson.

The Scientific Session, presided over by Dr. Warren L. Duffield, of Brooklyn, consisted of a paper by Dr. S. P. Beebe, of the Laboratory for Experimental Pathology of Cornell University, entitled "Parathyroids and Tetany." W. H. Rankin, of Brooklyn, read a paper entitled "Some Points in the Treatment of Acute Pleurisy." This paper was discussed by Dr. Elias H. Hartley.

Many of the members spent the afternoon sailing on Great South Bay, which even included some of those who had papers to read, but to whom the attractions of the water were greater than those of the meeting.

A good dinner was served at the hotel and the special train brought the members back to Brooklyn before eleven o'clock.



# In Memoriam

---

To my assistant and friend

HENRY C. KEENAN, M.D.

---

Keenan! Student with a master's mind,  
Peer of the most skillful, to the lowly kind,  
I see you standing—  
Laurel-crowned—alone!  
God! What a transformation!  
A wreath—a mound—a lettered stone!

—*John Cowell MacEvitt.*



## DR. HENRY C. KEENAN,

1872-1909.

**D**R. HENRY C. KEENAN was born in 1872. He attended St. James' Academy where he was graduated in 1888. He received the degree of Bachelor of Arts from Manhattan College in 1892. He was graduated from the College of Physicians and Surgeons, New York City, in 1895.

During 1896 and 1897 he served as interne to St. Mary's General Hospital of Brooklyn, and the next year he was appointed Assistant Gynecologist to that institution. During the same year he became Assistant Gynecologist to Vanderbilt Clinic, New York City.

In 1907 he was appointed surgeon to the New York Department of Police.

On June first, while visiting his patients, his horse became frightened and ran away; the carriage, striking some obstruction, was overturned and he was thrown out, sustaining a fracture of the skull, which rapidly resulted in his death.

Dr. Keenan had already reached a position of prominence among the gynecologists of this city, and at the time of his death was serving as President of the Brooklyn Gynecological Society and President of St. Mary's Alumni Association.

His death came as a great shock to his friends who were always inspired by his presence and his enthusiasm. He was a member of all of the more important medical societies of Brooklyn, and his writings bear testimony to the progressive nature of his work.

At the time of his death he was writing a treatise on "Traumatism of the Pelvic Floor."

Dr. Keenan had recently given up all general practice and had installed himself in a new home with offices especially arranged for his work. He is survived by a widow and two children.

The memory of him will long remain to his associates as an inspiration for earnest work in the relief of suffering.





## MEDICAL NEWS.

**American Medical Association—**The annual meeting, held at Atlantic City June 8-11, was the most successful of any, the attendance was large and the papers of high character. A number of the members of the Associated Physicians read papers. Dr. J. O. Polak read on the "Remote Results of Conservative Surgery of the Ovaries"; Dr. W. B. Chase, on "The Palliative Treatment of Cancer of the Uterus"; Dr. A. C. Brush on "A Study of the Traumatic Insanities"; Dr. Alfred Potter, on "Brown Tailed Moth Dermatitis."

**Queens-Nassau Medical Society—**At the annual meeting, Dr. J. P. Wood was elected president, Dr. A. W. Jagger, vice-president, and Dr. J. S. Cooly, secretary.

**New York Dermatological Society—**At the annual meeting, Dr. Samuel Sherwell, of Brooklyn, was elected president.

**American Dermatological Association—**At the annual meeting Dr. A. W. Pusey, of Chicago, was elected president; Dr. G. W. Wende, of Buffalo, vice-president, and Dr. J. M. Winfield, of Brooklyn, secretary.

**Kings County Hospital—**Plans have been filed for the erection of an addition to the main hospital. The addition will cost about \$150,000.

**Coney Island and Bradford Street Hospitals—**The Coney Island Hospital will be opened for the reception of patients early in the autumn, it is rumored that the committee appointed by the Commissioner of Charities, have completed the list of visiting physicians. Ground has been broken for the new Bradford Street Hospital.

**Brooklyn Hospital—**The first night clinic for women has recently been established at this hospital, the hours are from 7 to 9 P. M. Thursdays.

**Brooklyn Memorial Hospital for Women and Children—**After twenty-eight years of various vicissitudes, are about to erect a new building.

**New Tuberculosis Hospital—**The Central Federation of Labor, of Brooklyn, have applied to the State Board of Health for permission to erect and operate a hospital in Suffolk County. A hearing which was attended by county officials and others interested, was held June 11th.

**Long Island College Hospital** graduated a class of seventy-three at the fiftieth annual commencement.

**The Brooklyn Home for Consumptives—**After a disagreement with the managers, regarding the retention in the Home of children whom the visiting physicians did not consider tubercular, the whole medical staff, the superintendent and her assistant resigned. The Home is one of the pet charities of Brooklyn, and has always been controlled by managers who pay more attention to lay opinion than to the advice of the attending physicians.

**Dr. Henry C. Keenan—**A member of the Associated Physicians of Long Island met with a tragic death on June first as the result of a runaway accident. Dr. Keenan was prominent among the younger physicians of Brooklyn, having graduated from the College of Physicians and Surgeons in 1895. He was appointed police surgeon in 1908. He was a member of the American Medical Association, the Medical Society of the State of New York, Kings County Medical Society, Brooklyn Gynecological Society and Brooklyn Pathological Society. He was also assistant gynecologist at St. Mary's Hospital. A widow and two children survive him.

**Dr. C. E. Gunther,** for many years an instructor in pulmonary diseases at the Long Island Medical College, and one of the early members of the Associated Physicians of Long Island, died at his home, Hotel Iroquois, 39 West Forty-fourth Street, Manhattan, Saturday, June 12th. A widow survives him.

**Dr. A. T. Bristow** and family sailed on the ninth for a two months' visit to Europe.



# TRANSACTIONS

## OF THE

# BROOKLYN PATHOLOGICAL SOCIETY

*Stated Meeting, February 11, 1909.*

The President, John O. Polak, M.D., in the Chair.

---

### CARCINOMA DUE TO X-RAY EXPOSURES.

DR. RUSSELL S. FOWLER reported the following case:

J. B.—33 years old. A glass worker by occupation since the age of 14.

Of good habits and constitution. Could remember of no previous illness save an occasional coryza and bronchitis.

The family history is negative as far as present condition is concerned, though father died of pulmonary tuberculosis about 1893. Three brothers died of typhoid malaria in early childhood. The mother is living and in good health.

Soon after the discovery of the X-ray, the patient became interested in the manufacture of the tubes. His own work was chiefly in the testing room where he worked over a bench about waist high, being exposed above this level to the direct action of the rays from one to four hours per day.

In 1900, after about three years of work, he noticed a few small warty growths on fingers, knuckles, and back of hands. They did not seem to progress much in size, occasioned no discomfort and little or no attention was paid to them.

Four years later the patient gave up business on account of general poor health, indisposition, malaise and mental depression, which he attributed only to over-work.

At this time he noticed a peculiar erythema with slight tendency toward hard warty nodules, over face, neck, and anterior trunk, above the waist line. The warty growths on hands were still very small, the largest measuring about a quarter of an

inch in diameter, and numbered only eight or ten on each hand.

With rest and recreation his general health soon improved. He then had these small growths removed by cautery and silver nitrate. They returned and some began to increase more rapidly in size, became soft, slightly ulcerated, and excreted a small amount of serous fluid constantly.

Continuing to increase gradually, but persistently he was eventually forced to enter the hospital for operation—removal of index and middle fingers of left hand.

On admission, April 19, 1907, T.P.R. normal; general condition and nutrition good. Arteries and veins normal. Lymph nodes not involved.

Skin of face, trunk and arms, slightly red, with patches and mottling of marked erythema, and with many scattered hard, flat papules or warts, a small cutaneous horn on forehead and several smaller ones on chest.

Bones and locomotor system normal.

Alimentary, circulatory and respiratory systems apparently normal throughout.

Central nervous system normal.

*Extremities*—Large epithelioma over metatarso-phalangeal joints of index and middle fingers of left hand, deep and penetrating. Small epitheliomata over same joints of right hand.

*Operated, April 23*—Amputation of first and second fingers with heads of metatarsal bones of left hand, removing all of the apparent epithelioma but with only narrow margin. No more could be removed because of patient's reluctance to part with



more. For same reason, the epitheliomata on right hand could only be curetted.

*November 11, 1907, Readmitted*—General condition, etc. the same, except for some little loss in weight.

The growths on the right hand had increased some in size and fused, but were not deep. On the left hand, recurrence at the site of amputation, had spread rapidly, involving the metatarso-phalangeal joint of third finger deeply and of fourth finger slightly. Only curettage would be permitted, which was followed by an attempt to skin-graft. Result negative.

*March 9, 1908, Readmitted*—Patient's general condition, and condition of right hand had changed but little. On left hand, however, the growth had extended until third and fourth fingers were almost amputated. Thumb involved.

Even yet no involvement of the epitrochlear nor axillary lymph nodes was apparent.

On March 11, 1908, amputation was done at junction of middle and lower thirds of left forearm, which was wide of any epitheliomatous involvement. The wound healed firmly by primary union. At the same time another deep curettage was done on the right hand, but with poor result.

*April 20, 1908*—Another attempt was made to benefit the right hand by curettage and skin graft. Unsuccessful.

Discharged on June 14th with condition on right hand still slowly spreading. Stump of left forearm in good condition and showing no evidence of recurrence.

During the summer months he had treatment in the New York Skin and Cancer Hospital, with liquid air, but with no benefit.

*August 8, 1908, Readmitted*—General condition poor. Lost much weight; anemic; arteries and veins negative. Epitrochlear and axillary lymph nodes of left arm *enlarged*. Stump of left forearm in good condition with no appearance of local

recurrence. Epithelioma of right hand, however, had begun to spread rapidly and had ulcerated deeply into metacarpo-phalangeal areas of first and second fingers.

*August 11 1908*—Amputation of these fingers, with skin graft to cover wound. Growth recurred gradually.

The left epitrochlear and axillary glands increased very rapidly in size, forming great masses which became painful.

*September 25, 1908*—An Inter-capsulo-thoracic amputation was done on left side, and a small epitheliomatous ulcer removed from near the umbilicus.

The amputation wound healed very slowly, but with very slight recurrence.

Patient died November 7, 1908.

*Autopsy Notes*—Cause of death, general carcinosis.

*Skin*—Pale, thin and flabby, erythema in patches, and warty papules on face, neck, anterior part of trunk and arms. Hair very thin, dry, and brittle.

*Head and Neck* show only slight lymphatic involvement of latter.

*Chest*—Practically all lymph nodes were greatly enlarged, and firm, especially the mediastinal and bronchial, the latter being almost the size of a fist.

*The Left Pleura* showed only a few nodules on the visceral surface. No fluid nor adhesions.

*The Right Pleura* showed a great mass of carcinomatous infiltration on parietal surface, three inches by four inches by one quarter inch thick, about level with fourth to seventh ribs. Also numerous scattered nodules on both parietal and visceral layers.

*The Left Lung* was normal in size, appearance and section, except for a number of small firm, pale nodules scattered throughout.

*Right Lung* condition similar but seemed to contain somewhat less air.

*Pericardium*—Adherent to pleura,



especially on right side, and contained a number of the same nodules.

*Heart*—Normal size and position. Muscle light in color and somewhat soft. No nodules present. Very slight atheroma of aorta.

*General*—Kidneys enlarged by one-half more than normal size. Pale in color, capsule strips easily. Cuts with decreased resistance. Cut section pale, and differentiation between cortex and medulla is poor. Two or three small nodules found in each.

*Adrenals*—Enlarged to twice normal size, consistency firm, cut with much resistance, and appeared to contain but little normal tissue.

*Bladder*—Size, etc., normal. One nodule in wall.

*Liver*—Size, color, etc., normal. Numerous nodules in interior.

*Gall Bladder*—Normal.

*Pancreas*—Normal.

*Spleen*—Normal.

*Stomach*—Normal size. Pale, and mucosa appeared much atrophied. One nodule found in wall.

*Small Intestines*—Pale, otherwise normal.

*Large Intestines*—Normal.

#### SPINAL CORD FOUR YEARS AFTER SECTION.

DR. RUSSELL S. FOWLER called attention to the fact that as far as the gross appearance of the cord went there was nothing to indicate but that that part of the cord was intact. This man was operated on by Dr. George R. Fowler, at the Brooklyn Hospital over five years ago. The operation was suture of the spinal cord following a section of the cord by bullet at the level of the eleventh dorsal vertebra with complete paralysis below the umbilicus. His subsequent history was interesting. He underwent far less than the usual atrophy.

He was admitted to one of the charity hospitals in New York and afterwards was admitted to the German Hospital in Brooklyn and then was taken home. His death finally was due to a catheter cystitis. He would have attacks of incontinence

of urine, though for the most part in the last year of his life he was able to realize when he wished to pass water and could use a vessel, but occasionally his control was not good, and he would require catheterization. He finally developed a pyelonephritis from which he died.

The operation was done in May, 1903, and the patient died July 24, 1908.

*Autopsy, July 25, 1908*—Rather thin and poorly nourished male subject. Slightly contracted lower extremities. Large decubitus over buttock. On back over last dorsal and first lumbar vertebra is found an old scar.

Spinal canal laid open from fifth dorsal to the last lumbar vertebra. Laminae and spines of 10th, 11th and 12th vertebræ missing. Beneath the spinal cord is found thickened and buried in mass of adhesions. Adherent to post-surface of the bodies of the vertebræ the cord is freed with some difficulty from its bed and removed from fifth dorsal section to the cauda equina. On account of the thickened dura the line of separation could not be made out.

#### DERMOID CYST OF THE OVARY.

DR. RUSSELL S. FOWLER demonstrated a specimen the size of a large grapefruit, showing a piece of cartilage with particles of hair attached to it in connection with the ovary. The interesting point in the history was that this was a twisted cystoma, but not to the point of strangulation. Three months before operation she had passed through a normal labor without having this cyst discovered, and it was only discovered a short time before he saw her, its presence being disclosed on the occasion of pain in the right side, presumably when the twist occurred. This pain could be lessened by pushing the cyst down and relieving the tension and could be increased by pulling on the cyst. There were no inflammatory changes due to the torsion. The pedicle was four inches long and had one and a half turns.



## PANCREATIC CALCULUS.

DR. RUSSELL S. FOWLER reported a case which was referred to him by Dr. Cruikshank with approximately the following history: Patient aged 40, single, menses absent two years. Following grippe patient had catarrh of the stomach; vomited for weeks, abdominal pain continuous; loss of weight; no fever. A goitre with exophthalmos appeared a year later.

Her present illness began with an acute attack of abdominal pain in the right upper quadrant radiating slightly toward the epigastrium. She vomited once or twice. In October another attack came on and December 5th the present attack began, which consisted of repeated attacks of colicky pain in the right upper quadrant of the abdomen, some of which were accompanied by jaundice. A diagnosis was made of stone in the ampulla of vater. Operation disclosed a small stone in the pancreatic duct about an inch from the ampulla of vater, so that her jaundice was occasioned by this stone and the subsequent irritation at the opening of the pancreatic into the common duct. The patient reacted poorly and died some forty-eight hours later.

DR. FOWLER said pancreatic stones were interesting because we have seen so few. One of the points in diagnosis of pancreatic stones is this: In cases where disease of the pancreas is suspected, if the patient is kept free from alcohol and meat the pancreatitis will go along, if due to stones, without the patient suffering much discomfort. If the patient is given alcohol and meat, the symptoms of a suspected pancreatitis can be produced, if a stone is present, because the alcohol and meat will irritate the pancreas sufficiently to set up hypersecretion and cause blockage. Another point in diagnosis in pancreatic stones is this: that a pancreatic stone will give a sharp outline in a radiographic picture, while a biliary stone will give a rather faint outline. This was proved in a case he referred to Dr. Eastmond for radiography some months since.

*Discussion.*

DR. J. C. MACEVITT said one interesting symptom regarding the case narrated by Dr. Fowler was the fact of its non-discovery at the time of the woman's labor. The description of the symptoms of dermoid cyst are very meagre. It had always been an opinion of his that dermoid cysts being congenital, and only found in middle life as a rule, were uniformly progressive in growth, but within the last year two cases came under his observation, showing that while the growth may be progressive for a number of years, with latent infection they sometimes take on a very rapid development. In one case he did a myomectomy, which necessarily meant the examination of the ovaries, and within six months the woman returned to the hospital with a tumor as large as a grapefruit, and on opening the abdomen he was surprised to find a dermoid cyst.

In another case a woman knew of the presence of a tumor in the lower abdomen for some ten years. It gave her no uneasiness except its presence. Within three months it developed to such an extent that upon her entrance to the hospital she had the appearance of a woman at term. At operation it proved to be a dermoid cyst.

Kurstner gives a sign, the central implantation of the tumor, which in every case that came under his observation was wrong. Another symptom given by all others is the regularity in form. This is the exception rather than the rule; as the irregular form is more often found than the regular form.

It is stated by many that dermoid cysts are of a malign character. They are no more malign than other peritoneal covered tumors, but after a time when degeneration takes place with rupture, peritonitis occurs.

Another symptom he noticed in three cases was, that previous to the menstrual epoch there was aggravation of the pain.

If these few symptoms are noted he believed it would lead to an infer-



ential diagnosis of dermoid cyst, but he did not believe that a diagnosis of dermoid cyst can at any time be absolutely made.

#### UNUSUAL CASE OF INTUSSUSCEPTION.

DR. WARREN L. DUFFIELD, showing a specimen, said it was removed by Dr. Delatour at St. Johns Hospital. The patient was an Italian female, three years old. They were unable to obtain much history because of the age of the child, and the father was unable to speak much English.

The general complaint was pain in the abdomen. The history gave its duration as two months. A physician said the symptoms lasted for at least eleven weeks.

The present illness began about two months or longer ago with pain in the abdomen, paroxysmal in character; bowels regular, no vomiting. Examination February 9th: patient poorly nourished, abdomen distended, soft to the palpating hand. The right side contained masses varying in size. The left side was tympanitic. The child had a temperature of 100.4 on admission; pulse 140. A tentative diagnosis of tubercular peritonitis was made. A mass was distinctly to be felt in the right side of the abdomen, in fact, could be seen. The abdomen was opened and this large mass found, together with a great many enlarged lymph glands in the mesentery. Even after having the mass under inspection, it was not easy to make the diagnosis. It looked as though it might be a malignant growth, until it was examined more carefully, but it was then decided to be a case of intussusception. The healthy gut at each end was clamped, and the mesentery ligated with considerable difficulty on account of the enlargement of the mesenteric glands. It was necessary to pass the ligatures through and around the glands through which the ligatures cut very readily. The lower portion of the ilium was anastomosed to the first portion of the Cecum by a lateral anastomosis, using a medium sized Murphy button.

The child stood the operation fairly well. She left the operating room in bad shape, but is in a satisfactory condition to-night.

#### TUBERCULOSIS OF THE BRAIN AND ITS COVERINGS IN CHILDREN.

DR. LOUIS C. AGER, read a paper with the above title.

#### TWO CASES OF POST-PARTUM ECLAMPSIA.

DR. HUMPHSTONE reported the above cases, for which see page 252.

#### *Discussion.*

DR. L. C. AGER said it was interesting to hear the parathyroids mentioned in this connection. They are beginning to assume a great importance, he stated, in toxic conditions, and it has been proved there is a very definite relation between parathyroid activity and tetany.

DR. E. E. CORNWALL said that in the last three years he had treated seven cases of eclampsia, and all had gotten well. In studying cases during the period of gestation he thought the condition of the kidneys remained our most reliable index of the probable imminence of eclampsia, though headache and eye symptoms were often of great significance.

He did not approve of chloral for the convulsions, though he used chloroform. Of his seven cases, six came under treatment with high-blood pressure, and veratrum viride was given in large doses together with hot packs and other commonly used treatment. The case with low-blood pressure and small or very rapid pulse was vigorously stimulated and saved, though in an extreme condition when first seen, edema of the lungs being present. It is possible that the low pressure was due to cardiac exhaustion; for chloral had been given in large doses before the speaker saw the case. In every case in which labor did not begin during the convulsions, he induced it immediately or soon after. In one case which had had four convulsions before he saw it, he gave the veratrum in large doses, and as the convulsions ceased and the pulse rapidly lessened in tension—



falling to 190 m.m. in three hours, and to 145 m.m. in 15 hours, and 115 m.m. in 19 hours—he delayed inducing labor until the following day.

DR. O. PAUL HUMPHSTONE stated that in regard to the recognition of the kidney from the liver cases, the best means we have is through the differential nitrogen excretion, the ammonia co-efficient, in urinary examination. In liver cases that is our chief guide, while the kidney cases have a profuse amount of albuminuria and granular casts from the beginning.

In regard to the use of chloral; it seemed to him to be a recognized fact

among obstetricians that chloroform and chloral can be used more freely and with less danger in the presence of a partially emptied uterus than in other instances, and we have no particular fear in the use of chloral. He had seen it given in particularly large doses and had seen no cardiac depression due to the chloral itself.

In regard to the low-blood pressure, that is a distinct help. We can bleed these patients, and not have a fear when we infuse them, of driving this blood pressure above where it was before, thus increasing the irritability of the spinal nervous system.

---

## TRANSACTIONS

### OF THE

## BROOKLYN GYNECOLOGICAL SOCIETY

*Stated Meeting, April 2, 1909.*

The President, H. C. Keenan, M.D., in the Chair.

---

#### CASE OF CESAREAN SECTION.

DR. JOHN O. POLAK reported the following case:

On the evening of March 22, 1909, I was asked by Dr. Leigh-Jones, to see in consultation, Mrs. W., who gave the following history: She was 32 years of age, her family history was negative. She had always enjoyed good health as a child. Since puberty she had menstruated regularly, but had suffered from intense co-menstrual dysmenorrhœa. She had been married 11 years, and never had become pregnant. Three years ago, she was operated for her sterility, having a dilation under anesthesia. Since then she has had gradual dilations repeated monthly. Her last menstruation was on June 10, 1908. When seen by the writer, she had been in labor since 3 A. M., March 22d. On examination, we found a short, thickly set woman, weighing about 150 pounds. She was having pains every two minutes. The abdomen was very large and pendulous, and the child was lying with its dorsum to the right and back, and

the fetal heart was heard just above the anterior, superior spine. Her measurements were as follows: Ilio-spinal 21.5 c.m., ilio-cristal 27 c.m., external conjugate, 20 c.m. Suggesting slight general contracture. On vaginal examination the cervix was found to be long, and rigid; there was no dilation or effacement of its vaginal portion, though the patient had been in labor for over 20 hours. The true conjugate was estimated at 9 c.m., and the occipital frontal measured 12.75, making the estimated biparietal 10. The head was not engaged, and apparently not engageable, the membranes were unruptured. I suggested a tight abdominal binder, a hypodermic of morphia, and the right, lateral prone posture, to favor anterior rotation, dilation and engagement. No progress having been made by the next day, the woman's and child's condition remaining good, she entered my service at the Methodist Episcopal Hospital. The membranes having ruptured at 1 P. M., March 24th. No change had taken place in position,



engagement, or dilation of the cervix. During the afternoon a medium voornes bag was introduced by Dr. Holden, on which pulley traction was made, and the patient kept in the right lateral posture. At 8 P. M., when seen again by the writer, the pulse was 120, temperature  $102^{\circ}$ ; pains were almost continuous, notwithstanding the administration of morphia. The cervix was thick, and edematous, but would admit the tips of three fingers. The head presented at the brim as a right occipito-posterior, semiflexed, unengaged, and could not be engaged, owing to the ossification of the cranial bones. The retraction ring could be distinctly felt, 3 c.m. below the umbilicus. A section was decided on, and done at 9.30 P. M., March 24th, sixty hours after the onset of labor.

Two points are of special interest in this section: *First*, the very large quantity of serous fluid in the peritoneum, when the abdomen was incised. This has been observed by me in previous sections, when the woman has been in long and ineffectual labor, and *Second*: Owing to the extreme thinning of the lower segment, I made a longitudinal fundal incision. The breach and trunk were easily delivered, but the head was seized by the retraction ring, and only delivered by introducing the fingers through the ring into the child's mouth, flexing the head. This delay in delivery resulted in a partially asphyxiated child, but was resuscitated. A large piece of gauze saturated with iodine was pushed through the cervix into the vagina. The uterus was closed with interrupted chromic catgut through the muscle, and a continuous catgut in the peritoneum. The abdominal wound was closed with catgut, and interrupted cross sutures of silk-worm gut, and the patient left the table 21 minutes after the first incision.

The child weighed eight pounds and seven ounces.

#### *Abstract of Discussion.*

DR. CHARLES JEWETT said in answer to Dr. Polak's question, that no explanation occurred to him for the

presence of the fluid in the peritoneum except hyperemia of the peritoneum.

With reference to the site of the incision in these cases, it may seem rational to make the incision at the fundus, yet in cases in which he had incised the uterus lower down, even close to the bladder, he had seen no bad result. After practicing various incisions he had come to prefer the old fashioned one in the median line of the anterior uterine wall, reaching into the fundus, or not, as occasion might require. He had seen no special advantage in the transverse fundal incision.

The pelvis in the reported case seems to have been of fairly good size. The fetal head may have been responsible for the disproportion.

The speaker referred to a case in which he performed cesarean section two years ago for narrow pelvis. He delivered again a few weeks ago by cesarean section. The woman and her friends were very unwilling to face the ordeal again and requested that sterilization be done. This he did as follows: He excised the ends of the tubes from the cornua of the uterus, closed the wounds and then caught the cut end of each tube to the suture line with a single plain catgut stitch.

DR. POLAK stated with regard to sterilization he had hoped Dr. Humpstone would have been present to have reported a case of cesarean he did the day previously following ventrofixation. This woman was sterilized by the method which Harris had suggested. An elliptical incision was made around the tube at its uterine end. Excising the intra-muscular portion the gap in the cornua of the uterus was closed with interrupted sutures, and the proximal end of the tube flattened out on a denuded area of the peritoneal surface of the posterior face of the uterus behind and below, and secured with sutures thus completely occluded the lumen of the tube, bringing peritoneum of the tube to peritoneum of the uterus. Harris' idea of the procedure was that occasionally we might sterilize women at



their suggestion or request, and if the child should die and another was desired, it might be necessary to reimplant a tube. Ablation takes more time and is attended with more hemorrhage, and this resection seems to be fairly safe. Patients who have had resection of the tube have had immunity against pregnancy, while those where the tube has been tied and divided between ligatures have become pregnant in tube or uterus. Fry does this method when he buries the end of the tube in the broad ligament.

#### PSEUDO-HERMAPHRODISM.

DR. W. B. CHASE presented an individual whose development, he said, approached nearer the female than the male type. There was no beard on the face; there is a little hair about the genitals, and there is practically an absence of vagina. Where we ordinarily find the vagina below the clitoris it is wanting, but further down near the rectum there is a pouch which has the appearance of a rudimentary vagina. There is a development of the clitoris, which is about the size of the penis of a boy 12 years old, and if he mistook not there was a testicle in both the inguinal canals.

One of the interesting features of the case was the mammary development and the general outline of the figure is more that of a female than a male. This person dresses as a male and passes as such.

In answer to a question the speaker stated by bimanual palpation there was no evidence of a uterus or prostate.

DR. J. O. POLAK said he had corresponded with both Drs. Kelly and Young regarding this individual. Dr. Young said he has no prostate. Dr. Kelly made the statement that one of these glands, he thinks, is a testicle, and the other an ovary.

#### POSTURAL TREATMENT AND RENAL LAVAGE IN THE PYELITIS OF PREGNANCY.

A paper with the above title was read by Paul Pilcher, M.D.

#### *Abstract of Discussion.*

DR. C. Jewett said he had nothing to offer except to express his admiration for the valuable and original work Dr. Paul Pilcher had done in this line.

For those cases which do not yield to medicinal agents, the speaker said, the only recourse is a direct attack on the seat of infection. We are fortunate in having a man with us who can do this line of work so well.

His experience with these cases in pregnancy had not been very large. He had not advised emptying the uterus in any case he had seen.

He recalled a case occurring in the puerperium, a case of uretero-pyelitis and ascending infection. The woman had to be delivered rapidly with forceps owing to eclampsia, and, as it proved, an injury had occurred to the vaginal wall opposite the mouth of the left ureter. Through this the ureter became infected and a very sharp attack of ureteropyelitis followed.

Recently in removing a retroperitoneal dermoid he had the misfortune to injure the ureter. He did a uretero-ureterostomy. The patient has a urinary fistula which even if it heals will probably leave behind an infection of the pelvis of the kidney and of the kidney itself, which may require nephrectomy.

DR. J. O. POLAK stated that he had an opportunity to watch Dr. Paul Pilcher's work. He thought he had seen four of the cases, he reported, and it had been interesting to watch the progress of these from the clinical side.

One patient he referred to, a case of pyelitis and appendicitis in pregnancy, the speaker was fortunate enough to make the diagnosis of appendicitis and referred it to Dr. Duffield. At that time pyelitis was considered, but there were none of the clinical evidences of pyelitis, when the diagnosis was made, though the appendix when it was removed did not seem to offer a sufficient cause for the marked temperature that this girl was running. It reached 104-5° before and after the operation. On the



second day after operation she presented none of the clinical symptoms of pyelitis, and yet on the fifth day after, Dr. Paul Pilcher was able to make the diagnosis by the cystoscope and confirm it and cure the case by his postural-irrigation method.

DR. W. B. CHASE said there had been a case recently under his observation that had some things in common with these cases. The early history of the case was very interesting, in which in the fifth month of pregnancy there were puerperal convulsions, placenta previa and a series of symptoms which gave considerable solicitude, and now the question arose whether behind this there was not an inflammatory condition of one of the kidneys resulting in suppuration.

DR. C. JEWETT said that while argyrol is a good bactericide for the gonococcus it is not considered as good as nitrate of silver for other organisms as well. That is why nitrate of silver is likely to have the preference in ophthalmia neonatorum. He assumed Dr. Pilcher had some reason for preferring argyrol to the nitrate.

DR. J. C. MACVITT said that during the reading of the paper the thought occurred to him—"Is it possible for the general practitioner not an expert in catheterizing the ureter to make such a diagnosis?" It seemed to him that the microscope should be available to the obstetrician and the general practitioner and when Dr. Pilcher summed up he would ask him to speak of the possibility of these cases being diagnosed by means of the microscope.

Dr. Pilcher spoke of kidney epithelia: if the microscope would show that the epithelia present came from the pelvis of the kidney, would it not go to show the presence of pyelitis? If the epithelia came from the tubules of the kidney, would it not show a pyelitis, and a nephritis as well? If it be possible to determine through the condition of the kidney epithelia, it will determine the necessity of sending a case to a man expert enough to make the diagnosis certain.

The reader of the paper spoke of the pain in some cases being in the lumbar region, again in the inguinal region, and in other cases over the bladder. The time of pregnancy seemed to have little effect on the causation, but it did seem to him to be a matter to be taken into consideration. These three points: the differentiation through the microscope, the distinguishing of the symptomatology as to the character and location of the pain and the term of pregnancy would greatly aid the medical attendant.

DR. PAUL PILCHER, answering Dr. Jewett's question, said that as yet the effect of certain drugs on the pelvis of the kidney is uncertain, and as long as he was able to obtain a mild effect from the argyrol, he did not want to use a silver nitrate solution. He was not sure as yet whether the mere washing of the pelvis of the kidney with a simple sterile water solution would not have the same effect as using argyrol solution, or whether the simple effect of drainage and straightening out the ureter by the passage of the catheter alone has not brought about the happy result in these cases.

The clinical history of the case is quite characteristic, and he thought that in nearly all the cases he had reported, the question of there being a pyelitis had practically been decided upon by the clinician, but the cases were sent to him for an exact diagnosis. The pain is not always referred to the kidney at first but usually at a later period the pain localizes in the region of the kidney which is affected, and there is always some rigidity of the muscles which protect the affected region.

As to the diagnostic value of the various forms of renal epithelia which are thrown off in this disease, his studies had been disappointing. He thought in any diseased condition of one kidney, almost always you have renal epithelia thrown off from the opposite kidney, and unless you catheterize the two ureters and get an exact specimen from each kidney,



there is no way of telling whether the disease is on one side or the other. In the specimen he showed from the diseased kidney there was no renal epithelium thrown off to speak of; in the opposite side there were innumerable epithelia.

Why he happened to have had seven cases in the last six months he could not understand. It did not seem to him the condition had not been present before. The diagnosis of salpingitis and appendicitis was probably made when it was due to pyelitis.

---

## TRANSACTIONS

### OF THE

## BROOKLYN SURGICAL SOCIETY

*Regular Meeting, February 4, 1909.*

The President, C. H. GOODRICH, M.D., in the Chair.

---

#### RUPTURE OF KIDNEY.

DR. J. P. WARBASSE, presenting a specimen, said it was a kidney from a carpenter, 24 years of age, who four days previously fell from a height of about eighteen feet, striking on the loin, and sustaining a ruptured kidney. A tear extended from one side of the kidney to the other and involved the beginning of the ureter, lacerating the pelvis of the kidney. The speaker had never before seen a tear of just that type. He happened to be in the hospital at the time the man was brought in. He was in a condition of extreme pain and presented unmistakably the evidence of rupture of the kidney. The catheter brought away urine which was almost clear blood. His pulse was becoming more rapid. Within an hour from the time of his injury the speaker made an incision, and there came down a great deal of blood and a very active hemorrhage. Rapidly clamping the artery and vein of the kidney, he brought up the kidney and removed it, and found that the kidney was almost entirely detached as a result of this injury. He believed that the ureter was torn across and the main vessels of the kidney were lacerated. The patient was making an uneventful recovery, and the other kidney is secreting a normal amount of urine.

#### DIFFICULTIES IN THE REDUCTION OF FRACTURES.

DR. J. P. WARBASSE said the point which he desired to make was that in a large proportion of fractures of the lower extremities, we do not secure a correct reposition of the fragments, although we do secure as a result of our treatment, a satisfactory functional result. We have not known this until the X-ray has shown us, for the reason that as he had shown in a large number of these fractures, to the eye, to the measurements and to the palpating hand, we have every reason to assume that we have secured good apposition, when the X-ray shows defective apposition, and such apposition as in a court of law would be regarded as unsatisfactory to a jury.

The speaker presented an X-ray plate showing a fracture of the tibia at the junction of its middle and lower third as illustrating a deformity which is very common. To the palpating hand, to the eye and to the measurements there was a correct reposition of the fragments, whereas there is a lateral displacement equal to about one-third the diameter of the bone and a slight longitudinal displacement due to the obliquity of the fracture. A pertinent question might be asked, why was not that fracture palpable by simply running the finger down the



crest of the tibia and discovering the fault? It might seem to one looking at the place that one could not miss it, but as a matter of fact it was not palpable, because just before the palpating hand, passing down the crest of the tibia, reached the fracture, the swelling and exudate rendered the finger unable to feel the crest of the tibia, and for that reason the defect could not be discovered.

Dr. Warbasse then showed an X-ray plate, showing a fracture of the humerus about the middle of the bone with a lateral defect equal to more than one-half the diameter of the bone. To the palpating hand that position was satisfactory, and yet there is a lateral offset almost great enough to permit the bones to override one another. In a case of this sort, before we had the X-ray, we would have secured union and a good functional result with this exception: in so great a defect as this there is apt to be an involvement of the musculo-spiral nerve in inflammatory products, or by being pressed on by pieces of bone, which in later years would give rise to hand and arm, symptoms, which might not be attributed to the fracture at all.

The speaker next presented a plate showing a fracture in a child five years old. The fracture was near the neck of the humerus, overriding one-third inch, which was not palpable to the examining hand, and it was only by the use of the X-ray that the overriding in that case could be discovered.

Another plate showed a fracture of the fibula. This apposition was regarded as so satisfactory that the leg was encased in plaster, but still the picture taken through the plaster cast shows the degree of angulation that is present in the fibula, which was assumed to be in correct position.

Another plate showed a rather extraordinary condition of fracture of the tibia and fibula not in splints, but laid out on the X-ray table, ready for a picture. No splints had been applied, but he knew the location of the fracture. To his eye the alignment

of the leg was satisfactory, but the defect seen is very striking. It seemed as though there was a slight eversion of the foot before the picture was taken, but it will be discovered how defective the human eye can be in attempting to detect the alignment of these fractures. Later the case was corrected and put up in plaster.

We get pictures, of course, the speaker said, which show perfect apposition apparently, but when we take pictures at right angles, we find the position is not perfect. In order to come to a satisfactory conclusion in these fractures one must take a picture in two directions.

Last winter he showed some pictures of injuries to the elbow joint and presented his experience in the treatment. At the meeting of the Associated Physicians of Long Island when this matter was discussed, one of the members said it was a simple matter, the way to treat fractures of the lower end of the humerus was in the extreme flexed position, and he expressed the hope that that member might have seen some of the pictures he had showed illustrating what might happen if that was done. These pictures are in the last number of the *New York Medical Record*, and show fractures of the lower end of the humerus, which are made worse by the extreme flexed position. He then showed a picture illustrating this condition. It was a picture of a fracture of the lower end of the humerus involving the condyles. One picture showed the arm in moderately acute flexion and showed how very plainly that position exaggerates the deformity. He never saw a better example, which illustrated the objection to applying flexion to all fractures of the condyles. The speaker then presented another picture showing the deformity corrected.

The point he desired to make is that we must be on our guard in reference to giving the public the impression that when we reduce fractures we put the bone where it was before, and if we do not do that we have not made a good job. As a mat-



ter of fact in many cases it is impossible to do that except by open operation. However, if we do not secure perfect reposition we still may secure good functional results.

#### ANORCHISM COMPLICATED WITH INGUINAL HERNIA.

DR. J. D. SULLIVAN said the subject of this anomaly, in a boy ten years of age, the absence of both testicles was observed since the time of his birth. He is well developed in every other respect and is remarkably bright and intelligent. Within the last three or four years a slight bulging would appear in the right groin at various times while coughing or playing but would soon disappear. This was presumed to be an effort of the testicle to come through the inguinal canal. At no time has there been any appearance of a testicle on the left side.

On the night of November 27, 1908, he was called to see him and found a swelling just over the right external abdominal ring about the size of a small hen's egg which was firm and painful to the touch. No effort was made to reduce this hernial protrusion and the patient was sent immediately to St. Mary's Hospital for operation. An incision was made directly over the tumor and the external oblique aponeurosis divided from the external to the internal ring. Upon opening the sac the tumor was found to consist of a knuckle of small intestine about three inches in length filled with semi-solid fecal matter and constricted at the internal ring. This opening was enlarged and the contents of the intestine gently compressed backward until its size was sufficiently reduced to allow it to slip into the abdominal cavity. Attached to the posterior wall of the sac at the site of the external ring was a rudimentary testicle about the size of an ordinary bean connected with a fan-like expansion of the vas deferens—a primitive epididymis. The vessels which should constitute the cord were very small and spread out in the wall of the sac and it was quite evident that any attempt to separate the cord from the sac would endanger the life of the

testicle. So the sac was trimmed down and freed from the internal ring. An artery clamp was then pushed down through the cellular tissue from the external ring to the bottom of a diminutive scrotum and an opening made for the reception of the testicle. A double ligature was fastened to the lower extremity of the sac and passed down through this opening and through the scrotum, and while the sac and testicle were drawn down as far as possible, the ligature was tied over a small compress of gauze. The borders of the sac were then closed with a continuous catgut suture and the operation completed by the "Bassini Method" for the radical cure of Inguinal Hernia. The wound healed by primary union and the patient returned to his home within two weeks from the date of the operation.

It is interesting to note that although this boy is ten years of age the testicle was smaller and more flaccid than it should have been at the time of his birth if it were in a normal position. When he saw it his impression was that atrophic changes had already taken place in its structure and entertained some doubt as to the probability of its development into a normal condition. It is now a little more than two months since the operation took place and during that time the boy has gained three pounds in weight and his general health is remarkably good. The testicle is distinctly palpable in the upper portion of the scrotum and apparently a little larger and of a firmer consistency than it was six weeks ago. The wisdom of advising an operation on the left side with a view of bringing down the other testicle is now prominent in his mind and is worthy of careful consideration. From a review of all the literature on the subject at his command there appears to be no definitely settled procedure of dealing with an undescended testis. Neither is there any general agreement as to the proper age for interference nor as to the method of operation. But there is a consensus of opinion that an ectopic testicle should always be preserved for the



reason that, although it may not have any functional value, it has an important influence on the general health and virility of the subject.

#### ECTOPIC GESTATION COMPLICATED WITH HERNIA.

DR. J. D. SULLIVAN stated that this patient, aged 27 years, married—mother of two children, was sent to St. Mary's Hospital by a physician on the night of September 24, 1908, for immediate operation for appendicitis.

On admission the following history was obtained: Her youngest child is three years of age. Menstruation was normal up to two months ago. Since then it has been irregular and intermittent. Her general health has been good up to the afternoon of the date of her admission, when she was seized with an acute pain in the right lower quadrant of her abdomen. A physician was called in who made a diagnosis of appendicitis.

On examination her pulse was rapid and feeble, abdomen moderately distended with tenderness across the lower portion. She had a Femoral Hernia on the right side and an Inguinal Hernia on the left, but the hernial openings were free from any contents at that time. She said that the rupture on the right side frequently caused considerable pain, but she did not know whether it was down or not when the attack came on that afternoon. She presented the appearance of one suffering from shock or internal hemorrhage. No positive symptoms of appendicitis could be elicited. On the following day she was much better and the improvement continued for the next four days when she appeared to be quite well. But as our diagnosis was uncertain we obtained her consent to submit to an operation for the hernia on each side.

The operation for the radical cure of femoral hernia was performed and nothing unusual discovered during the procedure. We then proceeded to operate for the inguinal hernia on the left side. When the aponeurosis of the external oblique muscle was incised the hernial sac was observed to be filled with dark semi-solid blood

which at first view gave the appearance of a gangrenous intestine. The sac was opened and considerable thick dark blood removed. Two fingers were passed into the abdomen and a mass about the size of a small hen's egg was found to occupy the site of the right Fallopian tube. We were then positive that the present illness of the patient was caused by the rupture of the product of an ectopic gestation.

After the operation for the inguinal hernia was completed and the wound closed, the abdomen was opened by an incision which passed through the lower portion of the right rectus muscle, and about a pint of partly fluid and partly clotted blood was removed from the pelvic cavity. The right Fallopian tube containing the ruptured product of gestation was excised, the cut surfaces covered with peritoneum and the abdominal wound closed. The three wounds healed by primary union and the patient enjoyed an uneventful recovery.

The points of interest in this case are that a diagnosis of appendicitis was made by the physician who first saw the case. Her condition of apparent shock on her admission to the hospital and the subsequent difficulty in ascertaining whether her illness was due to a hernia or an ectopic gestation. It is his opinion that a better result was obtained by delaying the operation than would have been possible had we operated at the time of her admission.

#### *Discussion.*

DR. LEWIS S. PILCHER, replying to an inquiry directed to him said it had always been the view which had actuated his own advice in such cases, that unless the testicle presented and was easily palpable that it is best not to search for it. When it is palpable in the canal, then after sufficient time has passed to show that the natural tendency to descend is not sufficient to bring it down into its proper place, it is justifiable and desirable to assist its descent and fix it as far down in the scrotum as possible. He was inclined to think it sound surgery and



advice that would be sustained by most surgeons, that unless the testicle had reached that point, it is best to leave it where it is.

In that connection he thought it had not been a rare experience that, even where the testicle is accessible and is beginning to enter the canal, attempts to bring it down have resulted in the loss of the testicle. Hence the extreme propriety of being guided in our work by the amount of tension to which the vessels and nerves of supply to the part are being subjected, that we must stop within a point of safe tension to these elements. For this reason he would be of opinion in this particular case that it would not be best to make any attempt to expose and bring down the testicle, which is in the abdominal cavity on the other side.

#### PYLORIC OBSTRUCTION.

DR. S. L. TAYLOR related the case of a man 49 years of age whom he was called to see last March. He said he had been suffering for about two months with epigastric pain, nausea and vomiting and steadily increasing constipation. At the time he saw him he said he had had no bowel movement for eight days. He had not vomited any for two or three days, stating he had eaten very little, as every article of food gave him such distress. He said he had lost about 25 pounds in weight. He was much emaciated and feeble and had the appearance of advanced malignant disease, and the speaker thought that was probably what he had to deal with. He was sent to the hospital and on his admission was carefully examined. A large amount of undigested food was removed from the stomach with a stomach tube. The blood examination did not show as marked a condition of anemia as he seemed to have, red blood cells 5,200,000 and the hemoglobin 95 per cent. The examination of the abdomen showed a distinct bulging in the epigastric region and the lower part was flat. It was decided he had a pyloric obstruction.

A posterior gastroenterostomy was done and the man made a satisfactory

recovery. The only unfavorable feature was in the healing of the wound in the abdominal wall. There was considerable sloughing and he has a hernia as a result. A few weeks after returning home he did some heavy lifting, which might account for the hernia. He has gained 25 pounds and has no discomfort referable to the stomach. The pylorus was found adherent to the under surface of the liver by firm old adhesions. There was no evidence of recent inflammatory conditions. There was no appearance suggestive of carcinoma. The stomach was immensely distended, extending several inches below the level of the umbilicus, so that quite a long incision was necessary to get below the lower border of the stomach. There was no specific history. It was thought probable the adhesions were due to an ulcer which had healed and caused the adhesions to the liver.

#### *Discussion.*

DR. J. P. WARBASSE said this is a type of an interesting and large class of cases. Some years ago he reported on this condition. He was inclined to believe that many of these cases are due to perforating duodenal ulcers, and that these adhesions about the duodenal and pyloric region can be divided, and the angulation of the pylorus, or at the beginning of the duodenum, can be relieved. By dividing the adhesions and permitting the stomach to drop back into its normal position, of course the adhesions reform, but they reform with the stomach and the duodenum in a more natural position with the angulation relieved.

In the cases in which he has done that, there has been immediate relief. Cases with dilation of the stomach and evidence of pyloric obstruction, when these adhesions about the duodenum and pylorus were divided, were relieved. When the gastro-duodenal angle is straightened out, the stomach dropped back, the adhesions reform naturally with the patient lying in the recumbent position. As a result of such op-



eration the patients are relieved, and he would ask Dr. Taylor if that would not have been a feasible operation in this case of his.

DR. TAYLOR said there was no effort made to free the adhesions. They were firm and would not have been freed without removing a portion of the bowel. The man's condition did not warrant taking the risk, and he thought gastroenterostomy the safer operation.

#### THE CANCER PROBLEM FROM A SURGICAL VIEWPOINT.

DR. WESTBROOK read a paper with the above title. His paper referred especially to the occurrence of cancer in the abdominal digestive tract.

#### *Discussion.*

DR. LEWIS S. PILCHER said the intricacies of the question were well illustrated by the fact that notwithstanding the clear appreciation of many of the reasons which seem to point toward the presence of an infective micro-organism as the starting of the cancerous process, nevertheless the great mass of pathological, clinical and laboratory workers, who have to do with the largest amount of cancer material, at the present moment are strongly of the belief that it is not due to the activity of the microbic infection. Why that should be so, must be referred to the obscure and elaborate nature of the problem itself.

One of the strongest points which had been dwelt upon by the reader of the paper had been the reaction of the duodenum to cancer. He rose simply to suggest this thought for further consideration: is it not true that cancer is most prone to develop in those areas where there are presented a very large number of actively functioning cells. These are the areas in which carcinoma is, according to observation, most frequently developed. Of all the areas in the body it is the female breast where it occurs most frequently. A close second to that is the uterus; then will follow the tongue, stomach, rectum and external genitals, no area

of the body being entirely free from the development of carcinoma.

In those fields of development that have been mentioned we have areas in which there are at times at least a very active function. They are areas which are exposed also to external irritation of many kinds, and the irritation which may be present, with which we are familiar at least, is of a gross character and not of an obscure microbic nature. As to the duodenum, although a part of the stomach, is it not true that the structure of the duodenum does not present a predominance of actively proliferating and functioning cell material? Is it not more a reservoir into which the contents of the stomach are received and mixed with the secretion of the liver and pancreas, to a degree retained there for a mixing process of a mechanical nature, and is it not true also that the structure of the small intestine as a whole is one which fits it more for absorption and less for active secretion? He did not wish to say no secretion takes place, but the character of the cell processes as a whole which are presented in the structure of the duodenum and small intestines are of entirely different character from that present in those areas most prone to carcinoma. If this is the case may there not be in this fact one explanation of the less frequency, almost total absence, of the development of carcinoma in this part of the intestinal canal.

With reference to the possibility of external irritation being an important element in the development of the carcinomatous process, if we need a striking evidence it is in the occurrence of multiple carcinomata in single individuals after repeated and long exposures to the X-ray. Possibly in the X-ray carcinoma we have something which will give us a key to the primary cause of this lawless cell proliferation more than any other one thing.

DR. J. P. WARBASSE said the question of the etiology of carcinoma



was one he felt did not concern the surgeon so deeply as the therapy. It is an undecided question; if the pathologist cannot decide it, he was sure it was not incumbent to take sides one way or the other. Our business is curing carcinoma if we can. The question was still a mooted one; and there was a great deal to be said on either side.

To his own mind the strongest argument against the parasitic theory of carcinoma is that there are certain carcinomata which are prone to metastases, in which the metastatic deposits repeat the structure of the gland or organ from which the original disease developed. In primary carcinoma of the liver we find metastases in which liver structure is actually repeated, and we find the production of bile and bile stains in these metastatic deposits. That is purely an intrinsic disease of liver cells and there is no necessity for the assumption of any relation of micro-organism or infective agent in such a condition.

On the other hand the very strong argument in favor of the parasitic etiology to his mind was found in those cases of carcinoma in which there seemed to be actually an acquired immunity. Abundant illustrations are found in the lower animals, dogs and mice, *e. g.*, in which a large mass of carcinomatous tissue is removed, leaving behind a small residue of the growth. Gaylord and Claus particularly have observed that the residual mass atrophies and disappears and the animal becomes immune to carcinoma. It is difficult to think of immunity from such a condition without thinking of infection. Many of us have had the experience of operating on cases of carcinoma where we have been satisfied that we did not remove all of the disease, and yet the patients have recovered. He knew he had that experience in one striking case, in which he could see that he had cut through carcinomatous tissue and had left carcinomatous tissue behind, and still the pa-

tient recovered, and is now well six years after the operation. Relating that experience to Dr. Gaylord a few months ago, he told him that they had worked the thing out to such a degree that they believed if they could get hold of a patient who has an immunity to cancer following spontaneous recovery, or whose blood has shown an ability to overcome a certain amount of cancer, that the serum of such a patient will be found to have an actual immunizing or curative effect on cancer if introduced into the bodies of other persons. They have proved this to be true of dogs, mice and rats, and they believe that they can do it with the human subject. However, these matters are still speculative.

The speaker thought the most important thing the surgeon could do was to pursue a campaign of education, first among the profession, general practitioners particularly, and then among the public. There is a woeful tardiness among practitioners in referring cases of suspicious growths to the surgeon, and the public is encouraged by the general practitioner in going along and watching these things. Many people are informed, "Well, if it does not give you any trouble, all right; if it gives you any trouble let me see you again." That expression is responsible for a great deal of damage. The speaker believed the public should be instructed. It is the education of the public that is productive of the good results in the campaign against tuberculosis. If public education is needed in the campaign against tuberculosis, surely it is needed in the campaign against cancer. He thought the time has come when surgeons may wisely and properly throw aside their sense of modesty and ethical compunctions and instruct the public in this matter. In Germany and England prominent surgeons have written books in a popular way, which are circulated among the people, plainly and briefly stating



what carcinoma is, its nature and its treatment, how it may be recognized and what should be done; and it is such work as that that the surgeon must now pursue.

We know the treatment of cancer; the treatment is to take it out. It is now incumbent upon the public to come and have it taken out.

DR. R. W. WESTBROOK said he was much interested in Dr. Pilcher's explanation as to the difference between the occurrence of cancer in the stomach and duodenum, and thought there was no question but that there was a considerable explanation there, yet on the other hand it did not explain to him what he had so often observed, cancer affecting the stomach extensively and coming to the duodenum and stopping at that point, proceeding no further. There seemed to be some sort of inhibiting property which prevented the growth by continuity from proceeding which he did not recall occurred anywhere else.

He would still maintain that we ought to take a larger interest in the question of the etiology and incidentally the cure of cancer, that is, the cure in its broadest sense. Dr. Warbasse had said that Gaylord and Claus were anxious to get one of the cases of alleged spontaneous cure of cancer. We hear at times, he said, of a suspected spontaneous cure of cancer, yet the surgeon is not sufficiently interested in the broader question of the etiology of cancer to study up such a case as that. Dr. Warbasse mentioned an interesting case where he cut through cancerous tissue and the patient did well after. A case like that ought to have all its clinical data tabulated and made use of as far as possible, so that for this reason we ought to try to segregate the cases. We ought to have cancer departments in our hospitals. We ought to do that for humanity's sake, because we all are at a loss to know what to do with cases of incurable cancer. If we had that material we would have more liberty

of research, and we could make use of the newer methods suggested by the laboratory men—the methods in diagnosis and treatment—and he felt a large quantity of important data would be brought to light in that manner. Without doubt, he said, the public would be more confident in us if they thought we had a broader interest in cancer, rather than our interest merely “to cut it out.”

As to the question of taking sides in the matter of etiology, he did not think that would be of great value, and yet often it is a good thing to take a side and stick to it and let the burden of proof rest on the other side. He felt we would be in a stronger position to educate the public if we could tell them a little more about what they want to know. They want to know the cause of cancer, and when the cure is the knife they will not take the same interest as they will in the fresh air treatment of tuberculosis.

#### STRANGULATED HERNIA THROUGH LINEA SEMILUNARIS.

DR. GEORGE I. MILLER stated this patient, a woman 62 years of age, previously healthy, was admitted to the Jewish Hospital on November 21, 1908. She stated that she had recurring abdominal pain, vomiting, obstinate constipation.

For the last 14 years she felt a mass in her abdomen at a point about the middle third and outer border of the right rectus muscle. At times this mass was smaller, and on several occasions it almost entirely disappeared after 24 hours of rest in bed, together with applications of hot water bottles.

Three days before entering the hospital she became nauseated and vomited a few times. Her bowels did not move and she had some pain over the tumor. The following day she vomited again and the pain became more severe and the distention also increased. When admitted to the hospital the bowels acted as a result of a high S. S. enema, the main di-



minated and she felt much relieved. She had not vomited 24 hours before admission.

A mass about the size of an orange could be made out in the middle third of the linear semilunaris on the right side. This mass was soft, not movable, somewhat painful.

*Operation.*—The abdomen was opened by a 3-inch incision directly over the tumor. The omentum appeared as an irregular lobulated mass, somewhat congested and formed the greatest part of the bulging. On opening the same he found a knuckle

of small intestine quite dark in color, but it had not lost its lustre and improved on washing with warm salt solution, after a division of the constriction. The ring through which the loop of gut passed was about the size of a ten-cent piece. He ligated and excised the sac and omentum after reducing the protruded coil and closed the abdomen.

*Remarks.*—Hernia in the linear semilunaris do not always penetrate the abdominal wall and often form no manifest swelling.

### BOOKS RECEIVED.

ALL BOOKS RECEIVED WILL BE ACKNOWLEDGED IN THIS COLUMN. A SELECTION WILL BE MADE FOR REVIEW, AS DICTATED BY THE MERITS OF THE WORK. ALL BOOKS FOR REVIEW SHOULD BE SENT TO THE EXCHANGE EDITOR, DR. JAMES M. WINFIELD, 47 HALSEY STREET, BROOKLYN, N. Y.

**Surgery, Its Principles and Practices.** Edited by WILLIAM W. KEENE and JOHN C. DA COSTA. Volume IV. W. B. Saunders Co., Philadelphia.

**Constipation and Intestinal Obstruction.** By SAMUEL G. GANT, M.D., LL.D.—W. B. Saunders Co., Philadelphia.

**Report of the Committee on Social Betterment.** By GEORGE M. KOBER, M.D., LL.D. Published by the President's Homes Commission. Washington, D. C. 1908.

**Industrial and Personal Hygiene.** By GEORGE M. KOBER, M.D., LL.D. Published by the President's Homes Commission.

**Report of the Committee on Building of Model Houses.** By Gen. GEORGE M. STERNBERG, M.D., LL.D. Published by the President's Homes Commission.

**Report of Committee on Improvement of Existing Houses, Etc.** By WILLIAM H. BALDWIN. The President's Homes Commission.

### BOOK REVIEWS.

EDITED BY JAMES M. WINFIELD, M.D.

**Orthopedic Surgery for Practitioners.** By HENRY LING TAYLOR, M.D., Professor of Orthopedic Surgery and Attending Orthopedic Surgeon, New York Post-Graduate Medical School and Hospital; Assistant Surgeon, Hospital for the Ruptured and Crippled, New York. Assisted by CHARLES OGILVY, M.D., Adjunct Professor of Orthopedic Surgery, New York Post-Graduate Medical School and Hospital; Attending Surgeon New York City Children's Hospital, and FRED H. ALBEE, M.D., instructor

in Orthopedic Surgery, New York Post-Graduate Medical School and Hospital; Assistant and Skiagrapher, Hospital for the Ruptured and Crippled, New York. With 254 illustrations. New York and London, D. Appleton & Company. 1909.

Dr. Taylor has divided his text into three general divisions to facilitate the finding of a particular condition by one not conversant with the subject.

In the first portion the writer considers the general subject of dis-



eases and deformities of joints, classifying the various conditions according to the etiology. In this part of the work the subject of examinations, diagnosis and principles of treatment are given.

In the second or special portion, the deformities of each part of the body are taken up regionally and the special treatment indicated.

The third portion has to do with the technic of orthopedic work. Here is considered in detail everything from the correct making of a plaster of paris bandage to the final adjustment of elaborate hip or spinal brace.

The illustrations, of which there are many, are excellent and particularly to be commended because of the character of the radiographs. A partial bibliography appears at the end.

The work is of such a character that it is of value not only to the practitioner but to the general surgeon and orthopedist as well.

J. A. C. R.

**A Manual of Fever Nursing.** By Reynold Webb Wilcox, M.A., M.D., LL.D. Second Edition. P. Blakiston, Son & Co. Philadelphia.

It was not the reviewer's good fortune to see the first edition of this little work, but the second, a volume of about two hundred pages, is one of the most valuable books on nursing that has ever come under his notice. The remark that "nursing is nursing" does not apply when the disease happens to be some infectious fever, for in these diseases there is need for special training. If a nurse has the requisite training in general nursing, the study of Dr. Wilcox's manual will do much to make her the successful fever nurse. It might be added that patients could read the book with profit.

J.

**The Internal Secretions and the Principles of Medicine.** By C. E. DE M. SAJOUS, M.D. Vol. II.

F. A. Davis Co., Philadelphia. About 1,100 pages.

The recent visit of Dr. Sajous to Brooklyn makes it opportune to call attention to the second volume of his elaborate treatise. To give a critical review of it would be impracticable and uncalled for. Although paged continuous with the first volume (which appeared in 1903) it is supplied with its own table of contents, index, and introduction. There are twenty-five illustrations, in part original, besides an appendix on treatment of poisoning from this source, and a supplement on the relation of the adrenal and pituitary to particular diseases.

The work as a whole may be said to serve two purposes—one looking toward the establishment of theory and conclusions, and the other constituting it a vast storehouse of facts gathered from all sources and covering not only this but more or less the auxiliary fields. No one can yet quite foresee the ultimate limits of this department, nor would any author claim finality for his results; the more any one works in this line, however, the more interested must he become in many of Sajous' interpretations.

With his former series of invaluable *Annals*, his *Analytical Cyclopædia* (of which a new edition is soon to appear), and this monumental work on the circulatory secretions, the name of Sajous will appear larger in the professional history of our time than is commonly noted.

B.

**A Text-book of Physiology.** For Students and Practitioners. By GEORGE V. N. DEARBORN, A.M. (Harvard), Ph.D., M.D. (Columbia), Professor of Physiology in Tufts College, Medical and Dental Schools, Boston. Octavo, 550 pages, with 300 engravings and 8 colored plates. Lea & Febiger, Publishers, Philadelphia and New York. 1908.

A number of important works on physiology have lately appeared and



most of them have been volumes of considerable size. Professor Dearborn has been teaching physiology to both medical and dental students, and it is for the benefit of both that this volume which is smaller than most—has been prepared. It emphasizes the mechanism of sense organs, nerves and muscles as the basis of the individual efficiency, and it brings out clearly the relations of mental processes to physiological action; for this reason it is acceptable to both students and teachers of physical education and psychology. After describing protoplasm and the cell, and the various systems and functions of the body, a chapter is devoted to mental functions; here the author describes the general characteristics of the mental process, the distinctive aspects of consciousness, the control of the will, and knowledge. Under this last heading, sensation, perception, conception, understanding, and the reason are all discussed; this chapter will be especially interesting to mental therapists, and is bound, in the next few years, to become an important section of physiology. The book is written concisely, and it does not presume the student to be acquainted with the subject beforehand, presenting the principles of physiology in an orderly, logical manner.

**A Text-book of the Practice of Medicine.** By JAMES M. ANDERS, M.D., Ph.D., LL.D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Eighth revised edition. Octavo of 1,317 pages, fully illus-

trated. Philadelphia and London, W. B. Saunders Company. 1907.

Two years ago, the seventh edition of Dr. Anders' book appeared, and the favorable criticism which was expressed at that time is pertinent to this, the eighth, edition. There has been no change in the essential features of the book. The author emphasizes most strongly synthetic induction, diagnosis, differential diagnosis and treatment. If any change is to be noted, it is an increase in the tables of points of differentiation and in the number of illustrations. Part I treats of the infectious diseases. Part II, animal parasitic diseases. Part III, constitutional diseases. Part IV, diseases of the blood and of the ductless glands. Part V, diseases of the respiratory system. Part VI, diseases of the circulatory system. Part VII, diseases of the digestive system. Part VIII, diseases of the urinary system. Part IX, diseases of the nervous system. Part X, diseases of the muscles. Part XI, intoxications, obesity and heat-stroke. Certain changes and improvements are noted, but this is a minor detail. The introduction of vaccines and serum therapy, as well as the means for preventing disease has called for a wider discussion of the treatment of disease. Among the subjects newly discussed in this edition are polycythemia and cyanosis with splenic tumors; Stokes-Adams disease; Vincent's angina; abortive pneumonia; chronic appendicitis without acute attacks; intestinal auto-intoxication, and senile dementia. The new edition can be safely recommended to students and practitioners as an up-to-date text-book on general medicine.



# LONG ISLAND MEDICAL JOURNAL

VOL. III

AUGUST, 1909

No. 8

## PERITHELIOMA OF THE BRAIN. REPORT OF A CASE.

By WARREN L. DUFFIELD, M.D.

Attending Surgeon, Jewish Hospital; Assistant Attending Surgeon, St. John's Hospital.  
BROOKLYN-NEW YORK.

THE following case is reported because of the difficulties of diagnosis, the symptoms at times closely resembling those of a brain abscess and mastoiditis.

Mrs. B., a widow, 40 years of age, well nourished, and having had two children, first came under my observation on June 23, 1906, giving the following history:

Mother and one brother alive and in good health. No history of mental or venereal disease nor of tuberculosis. Husband died of tuberculosis about seven years ago. Family states that she has had all the ordinary diseases. Since fifteen years of age has suffered with dysmenorrhea. No history of venereal disease. Has always had a cough, and has always had a nasal catarrh. For a number of years has had a left otorrhea, and six or seven years ago had a right otorrhea which persisted for a short time but ceased under treatment. Mother states that she is deaf in one ear, but does not seem certain which one.

The present condition has existed about five weeks. At this time she was assisting in the running of a boarding-house and was possibly under a slightly greater mental strain than she had been accustomed to. She retired one evening and slept continuously until the following evening, when she was aroused. Prior to this time she had complained of feeling tired and had acted in a slightly ab-

sent-minded way. On being aroused from her sleep she walked to her home, a distance of several blocks, but continued in a very somnolent condition, would sleep all day, but on being aroused for her meals would complain bitterly of pain in her head. This pain lasted for about five days and then her condition became one of lethargy. She knew her friends and family but was slow to understand and slow to answer questions. Intellect sluggish. No delirium, tremors, paralysis, vomiting, headache nor complaint of pain. Bowels were regular and appetite good. She was apparently in normal health except for her mental condition. During this time she was under homeopathic treatment and received some iodides. No menstruation since beginning of illness.

The above history was obtained from her family, as it was impossible to obtain a connected story from the patient.

Examination June 23, 1906: Patient sitting up, as she has been part of each day during her illness; face dull and apathetic, color good, pupils equally contracted. Mother states that strong light seems to annoy her. Mouth temperature, 99 degrees F.; pulse 88, regular, soft and rather small but not weak. Tongue clear and appetite good. Bowels moderately regular, has had incontinence once. Tenderness over lower portion of left mastoid, no discharge from ear ap-



parent. Mother states that two days ago she removed a piece of cotton from this ear which, judging from the very foul odor, must have been there some time. Urine was approximately normal, showing a very few hyaline casts but no albumin. No edema present.

Examination June 27, 1906: Patient in bed in heavy sleep from which she was aroused with some difficulty and then only into a condition of lethargy. Temperature and pulse same as before, respiration 27, easy and rather shallow. Heart, lungs and abdomen apparently normal. Has a cough with profuse expectoration, but this is said to be no worse than usual. Pupils

Examination June 28, 1906: General condition about as before, seems to understand all questions, but answers, if at all, by movements of the head, only speaking at rare intervals. Examination by Dr. J. Scott Wood: Equal tenderness over both mastoid regions, absence of left tympanic membrane and entire cavity covered with epithelium. Right tympanic membrane perforated and retracted. Hearing in both ears moderately good. Examination of eyes very difficult, due to patient's objections and to strongly contracted pupils which dilated only to a slight degree with cocain. Left eye apparently normal, slight cloudiness on nasal side of right retina.



FIG. 1.—CROSS SECTION THROUGH THICKEST PORTION OF TUMOR. ACTUAL SIZE.

same as before. Sensations in arms and legs slightly delayed to pin prick. Lethargy deeper than at last visit but family state that she is quite bright in the morning, answering questions and speaking at times, but becomes very heavy and drowsy later in the day. Greater tendency to incontinence of both bladder and rectum since last visit. Tenderness over mastoid not so great as at previous visit. No discharge from ear can be detected, but on the introduction of a cotton carrier a slight moisture can be made out with a very foul odor. Patellar reflex normal. Slight tenderness over left jugular. Since last visit has complained several times of pain in ear.

A partial mind blindness apparent, can promptly call by name some familiar objects but is unable to attach a name to others.

On the following day she was admitted to St. John's Hospital, Brooklyn, with a temperature of 102 degrees F. Blood examination as follows: Leucocytes, 19,000; polymorphonuclears, 65 per cent.; small lymphocytes, 20 per cent.; large lymphocytes, 10.5 per cent., and eosinophiles, 2.5 per cent. Examined by Dr. William Browning: Myosis, no reaction to light or accommodation; knee jerks gone, reinforcement impossible; all five reflexes present in left arm, also in right but not so



strong; no ankle clonus either side; plantar reflex present both sides; Babinski present on right side, absent on left; tendo Achilles reflex absent on both sides. Patient obstructs examination of any sort.

July 1, 1906: Is quite bright this morning and wrote a note spontaneously in which the penmanship was reasonably good but sense not clear. Was able to read and did so without being requested to. Gives inaccurate and vague answers to ques-

able tenderness posterior to left mastoid. Incontinence of urine and feces. Sputum examined for tubercle bacilli but with negative results.

For the next three days she seemed to improve markedly in her mental and physical condition. The stupor was lessened, she was apparently rational; incontinence disappeared; her temperature gradually reached normal; her pupils became normal in size and tenderness over mastoid passed away. On July 6th, she was less ra-



FIG. 4.—LOCATION OF TUMOR.

tions. Point of marked tenderness, posterior to left mastoid. Average temperature for the day, 100 degrees F.

July 2d: Patient was very bright all of yesterday and seems to be so to-day. Seems to be rational except for a remark made by her while eating her breakfast, when she complained of having a gold brooch in her mouth. Complained of a sharp, stabbing pain in her left ear but lasting only a minute. No tenderness over either mastoid, but point of consider-

tional and has again lost control of bladder and rectum, this continuing until July 10th, when she again improved and held it until the 16th, when her mother insisted upon taking her home. At this time she had relapsed into her condition of lethargy with incontinence. From the time she left the hospital I was unable to keep her under daily observation, but her mother reported her as being in about the same condition as when in the hospital. During the early part of August she was troubled with a number of boils



on her legs which I attributed to the potassium iodide. At about this time she was able to go out for short walks and to ride for considerable distances on the cars. She would complain at times of sharp pains in her head and always seemed to have some tenderness in the left mastoid region. This was very variable, however, at times so acute that the slightest pressure would cause her to cry out with pain and at other times so slight that heavy pressure would be borne without complaint of pain. Though her general condition had remained about the same for some time and she seemed a trifle better, her pupils again became contracted and about the middle of October it was noticed that she held her head extended with face turned to right, as though making an effort to relax the muscles of the left side of her neck.

On November 15th she became very much constipated, a condition which was only relieved by vigorous treatment, and at the same time her condition of stupor deepened materially.

November 18th I found her confined to bed in a deep stupor and with a moderate congestion of left lung. She would resist when stuck with a pin or pressure made over a nerve but could not be aroused otherwise. Her condition failed gradually, and on November 23d a slight tremor of right arm and leg made its appearance. Although her coma was very much deeper and she could not be aroused, slight pressure over the left mastoid would cause her to try to draw her head away. On the morning of November 24th I found her much weaker but quite rational; could understand and answer simple ques-

tions. On the afternoon of this day I was again sent for and arrived about fifteen minutes before she died, her pulse becoming slower and slower before the end.

Permission for an autopsy was obtained with the understanding that we would stop as soon as the cause of her condition was found. With this understanding we determined to examine the brain only and on the following day Dr. A. Murray performed a partial autopsy. The dura was non-adherent, moderate congestion of the vessels of the cortex, numerous adhesions between the brain and the membranes. Left mastoid antrum found to contain cholesteatomatous material. A moderately hard grayish white tumor,  $2\frac{3}{4}$  inches long,  $2\frac{1}{2}$  inches broad and  $1\frac{3}{4}$  inches high, was found occupying the anterior upper portion of the left frontal lobe. The upper surface of this tumor was covered by a thin layer of brain tissue, and that side of the tumor toward the median line crossed the longitudinal fissure and pressed lightly on the right frontal lobe. The tumor was smooth, without any capsule, but its limits were sharply defined and it shelled out of the brain substance without any difficulty. Fig. 1 shows a cross-section through thickest portion of tumor. Figs. 2 and 3 the high and low powers respectively, and Fig. 4 a diagrammatic drawing of the location of the tumor.

Though the symptoms of tumors of the frontal lobe are reasonably well defined this case was misleading, due to the pain and tenderness over the mastoid region, the irregular temperature and the rather high leucocytosis.

119 Berkeley Place.



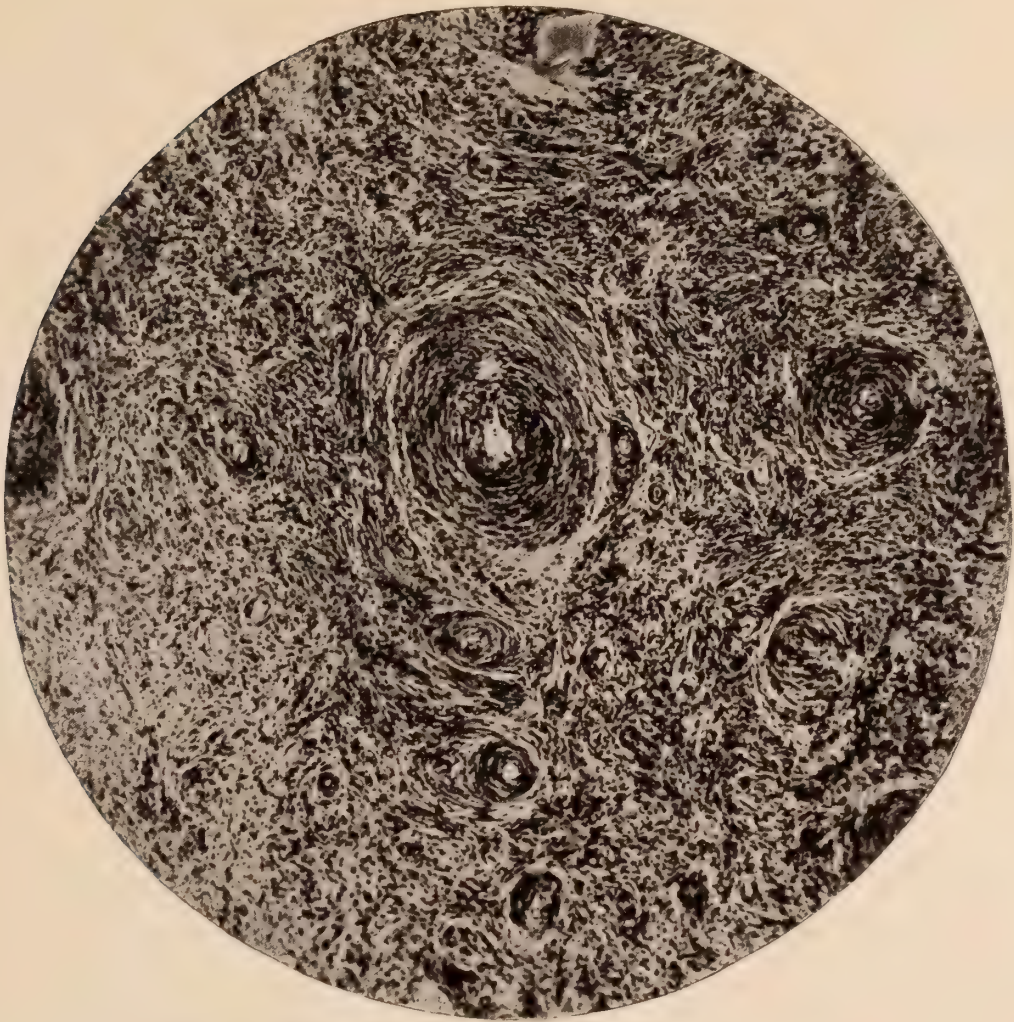


FIG. 2.—SECTION OF TUMOR UNDER LOW POWER.

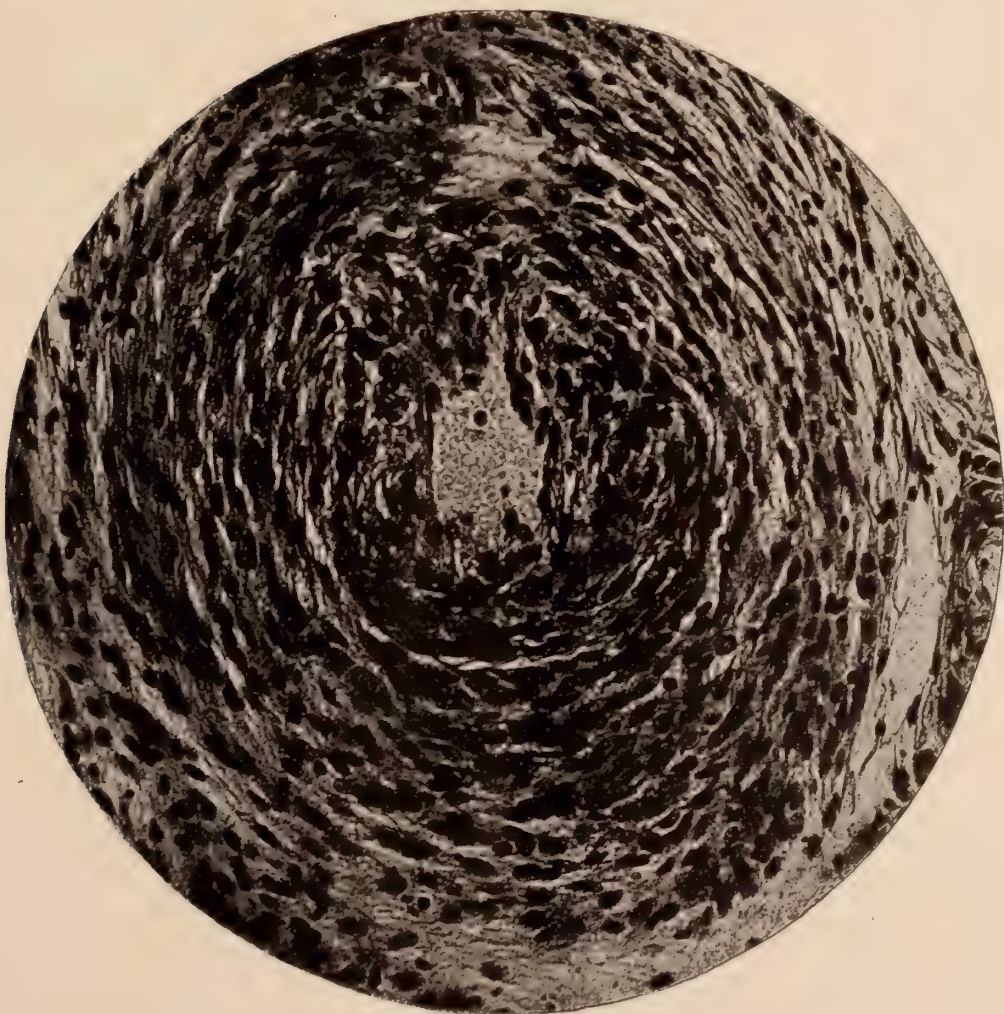


FIG. 3.—SECTION OF TUMOR UNDER HIGH POWER.



# TUBERCULOUS MASTITIS.\*

By WILLIAM LINTZ, M.D.,

Associate Pathologist to the Jewish Hospital; Attending Physician to the Jewish Hospital Dispensary.

THE rarity of this disease is my excuse for bringing before you this case, for which reason a few words about this malady will perhaps not be amiss.

A study of 1,500 cases of disease of the mammary gland, in St. Bartholomew's Hospital, London, has shown 1.5 per cent. of that number to be tuberculous. It occurs most commonly in women between the ages of twenty-five and forty, and previous disease of the gland seems to be a predisposing factor, it rarely being primary when the tubercle bacilli may enter through an abrasion of the breast or nipple, or may be driven in by friction of the nipple or skin and may ascend the milk ducts or the lymph vessels of the nipple. It is nearly always secondary to tuberculosis of the axillary or subclavian glands, caries of the ribs or sternum, or tuberculous empyema. In some cases the tubercle bacilli are brought to the breast by the blood, as, for example, from an area of bone disease in the extremities or from a focus of pulmonary tuberculosis.

Pathologically, tuberculous mastitis exists in two forms; the *discrete*, where there are a number of caseous nodules scattered throughout the breast; and the *confluent* form, where there is a tuberculous mass of varying size usually located about the nipple and containing a cold abscess in the centre, from which may lead several sinuses discharging pus.

Clinically, it is slow in its onset, very chronic in progress, sometimes, painful, and sometimes painless. The breast may be enlarged, but is usually small and nodular—sometimes actually shrunken, while the axillary glands are practically always enlarged.

The prognosis depends upon whether the disease is primary or secondary; in the former, the prognosis is excellent, in the latter, it de-

pends upon the primary condition present. It is questionable whether anything short of removal of the breast and the clearing-out of the axilla is of any value.

CASE REPORT: E. L., female, forty years of age, born in Russia, whose occupation is housework, was admitted on October 21, 1908, to the Jewish Hospital and placed in Dr. Delatour's service.

Family history and previous history have no bearing on the case.

Present illness: Two months ago, patient noticed a swelling about the nipple of her left breast; the swelling increased slowly in size, but occasioned her little pain; she coughed and expectorated for some time; has night sweats, feels very weak, and has been losing considerably in weight; appetite poor and bowels constipated; feels feverish and chilly at times.

Physical examination: Patient seems poorly nourished; is of small frame, skin sallow and clammy; mucous membranes pale and tongue coated. Heart was negative. Lungs showed diminished breathing over right apex, also increased tactile fremitus, some dullness and bronchial breathing, with sibilant and coarse râles. The rest of the lung was negative. Liver, spleen and abdomen were negative. Right breast was normal.

Left breast was smaller than the right; nipple retracted, and a small hard mass could be felt about the nipple; left axillary lymph nodes enlarged.

Treatment: A Halstead operation was done by Dr. Delatour and the axillary lymph nodes removed.

The following is a description of the breast as received by us at the laboratory:

Pathological description of breast: Breast (left) is smaller than the other (right), its surface is smooth, has no nodules and is firm in consistency; nipple is pigmented and retracted. On section through the nipple about 20 c. c. of yellowish-green pus escaped; the growth itself is **conical in** form with its base towards the base of the breast and its apex pointing toward and involving the nipple; the growth is grayish-white in color, sharply defined from the surrounding tissue, hard in consistency, and on microscopical section shows the usual lesions of tuberculosis, namely, tubercles, giant cells and necrosis. There are no other nodules in the breast. Axillary lymph nodes are enlarged and, microscopically, show typical tuberculosis.

The patient made an uneventful recovery and is now perfectly well.

596 Willoughby Avenue.

\* Read before the Brooklyn Pathological Society.



# CONGENITAL VAGINAL ATRESIA.\*

## REPORT OF A CASE,

By CHARLES JEWETT, M.D.

THE patient was a woman of 21 years, weighing 125 pounds, and about 5 ft., 2½ ins. in height. Her general appearance betrayed nothing of her anatomic defect. In point of mammary development, well rounded figure and all the external characteristics of her sex she was apparently a normally developed woman; moreover she is contemplating marriage. There was a history of moderate menstrual menses for a short time after puberty.

At examination the external genitals were found in all respects normal. A shallow depression scarcely an eighth of an inch in depth presented immediately above the hymen. Beyond this the vagina was wholly absent and only very rudimentary uterus and ovaries, or what were taken to be such, could be palpated by abdomino-rectal manipulation.

At operation a transverse incision was made at the base of the hymen posteriorly. With a gloved finger in the rectum and a sound in the bladder as guides, blunt pointed scissors were pushed well up between the bladder and rectum and the blades spread as the scissors were withdrawn, separating the two viscera. The dissection was extended to the peritoneal pouch of Douglas, mainly with the fingers and was carried well out laterally over the sides of the rectum. It was effected with no difficulty, with very little bleeding and without injury to bladder, rectum, ureters or peritoneum.

A bimanual examination at this time revealed little that had not already been made out. The uterus was represented by nothing more than a thin narrow band, and two small nodules, one c. m. or more in diameter, were assumed to be the ovaries.

Two wide skin flaps about seven inches in length were taken from the inner surfaces of the thighs, the pedicles at the vaginal orifice being left uncut. The free ends of the flaps were caught together with a catgut stitch, the raw surfaces being turned outward. The flaps were then stitched loosely to a large Penrose rubber cover drawn over a firm roll of gauze. They were held in contact with the walls of the canal as the gauze plug was pushed well up to the peritoneal fold. The plug was kept in place by a T. bandage.

The patient's temperature was normal till the fifth day when it rose to 103° F. The vaginal plug was removed and a thin watery fluid, coming from the anterior wall of the canal, was discharged soon after. Within a few hours the temperature fell to normal. A large hard rubber cylinder with its inner end well rounded and perforated for drainage was substituted for the gauze plug. The subsequent course of the case was without incident.

The pedicles were cut yesterday, the fourteenth day, and the skin wounds thus left were sutured.

The dangers and drawbacks of the operation for making an artificial vagina are those of infection, injury to bladder, ureters, rectum and peritoneum and difficulty in maintaining the required dimensions of the canal. The extent of the primary dissection must be ample enough to allow for considerable subsequent contraction. It must be extended well out over the lateral aspects of the rectum. To get sufficient length it is often necessary to dissect up the peritoneal fold from the rectum, for an inch or more at the upper end of the wound. Contraction is limited by lining the wound with skin flaps or grafts. Most satisfactory, I think, are large skin flaps with

\* Read before the Brooklyn Medical Society, November 19, 1908.



pedicles left uncut, yet this plan has the disadvantage that it leaves unsightly scars when taken from the thighs.

The cutaneous covering of the labia has been utilized for lining the new vagina, but the latter plan entails worse mutilation than taking the flaps from the thighs.

Abbe implanted skin grafts which were held in place by first stitching them to a rubber covered gauze plug.

Bovée supplied a mucous lining in one case by transplanting the rectum after the method proposed by Baldwin of Columbus, Ohio. The sigmoid was brought down and sutured at the anal orifice. As Bovée observes so formidable a procedure is not to be recommended.

To maintain the proper calibre of the tract a large vaginal plug must be worn while the wound is healing and for some time longer.

---

## RENAL VARIX.\*

By PAUL M. PILCHER.

---

THE object of the paper is to submit certain observations which seem to establish a definite pathological lesion for a hitherto indefinite condition and to place upon a sound rational basis a method of treatment which hitherto has held only an empirical footing.

The history of the cases is very much alike. The patient, usually in good health suddenly notices the presence of blood in his urine. There is nothing to account for its presence; there has been no undue exercise, no injury, no infection, no history of renal colic; no pus cells, epithelial elements, crystals, tubercle bacilli, or other abnormal ingredients are found in the urine, other than blood, which is at first small in amount, then either increasing or decreasing, and often at times absent altogether; in some cases, the amount of blood is influenced by exercise, while in others this plays no part. In two cases of my own, the quantity of blood seemed to be greater in the morning and to lessen as the day advanced. It occurs with varying frequency in both men and women over twenty-five years of age. Some patients have had alcoholic habits, while others have been total abstainers; in fact, there is no type nor class

of person in whom the disease has been more frequently observed. The hemorrhage may last but a few days, only to disappear and recur again after periods of weeks or months or even years; or, again, it may be continuous from the first, causing progressive anemia.

As a rule, the urine is loaded with blood and, at times, with free hemoglobin; the blood-cells are evenly distributed throughout the urine, appearing in all parts of it as it is evacuated from the bladder; clots may be found in the bladder, to be expelled at intervals; as the specimen stands, the cells rapidly fall to the bottom of the glass container; and it has been observed in my own cases that the urine retains its reddish color after precipitation of the cells, probably due to free hemoglobin.

The urine shows no evidence of renal disease other than a reaction for albumin in proportion to the amount of accompanying blood serum, excepting where nephritis is present—a condition which of itself may give rise to hematuria, but which should not be classed with the cases under consideration.

Rarely the patients complain of pain or distress in the affected kidney or over the bladder, but it has been observed in some cases that all the

---

\* Abstract from a paper read before the Brooklyn Surgical Society, March 4, 1909, and published in the *Annals of Surgery*, May, 1909.



pain and discomfort have been referred to the opposite kidney. The disease is always unilateral; and no cases, so far as I can learn, have ever been reported where the disease affected both kidneys. It is true that symptomless hematuria is frequently bilateral; but those are the cases due to malaria, hemophilia, drug-poisoning, nephritis, or other cause quite different from those included in the present report.

*Diagnosis.*—The first consideration is the history which the patient presents, such as has been described above. One naturally thinks first of malignant disease, papilloma, hypernephroma, malaria, nephritis, hemophilia, or renal varix; more rarely of stones or tuberculosis.

The analysis of over eighty cases of lesions which had been previously called *essential hematuria* was given in which the writer of the paper felt the symptoms such that the diagnosis of a renal varix was justifiable. Two personal cases were reported, as follows:

CASE I.—Referred by Dr. William Moser. Man, aged 62 years, janitor by occupation, was admitted to the German Hospital of Brooklyn on August 26, 1908. Family history negative. He did not use alcohol in any form; had never suffered from scarlet fever, rheumatism, diphtheria, or malaria; in 1898 he was ill with pneumonia; has had several attacks of influenza; has had hemorrhoids for several years with occasional bleeding therefrom. In November, 1907, he first noticed blood in his urine; this was shortly after an attack of influenza, and there were no other symptoms referable to the genito-urinary tract excepting some increased frequency of micturition; the hematuria was said to have been constant. During the months following, he did not feel well and had occasional attacks of dizziness, weakness, specks before the eyes, etc.; he also suffered from bleeding hemorrhoids. In July, 1908, there was increasing weakness and dizziness, with alternating constipation and diarrhoea; he had no chills or fever, and at no time complained of pain; there was loss of appetite and specks before the eyes, but no tinnitus aurium. August 10, 1908, he began to have indigestion, manifested by vomiting following his meals, unaccompanied by pain or by blood in the vomitus; about the same time there was slight swelling of the ankles, which lasted for only a few days. The urine was constantly loaded with blood, and he often passed clots of blood; he

would void his urine three or four times during the night.

In this condition he presented himself for treatment. He had an apathetic expression, and was anemic rather than cachectic; the eyes were slightly sunken and watery; his temporal and radial vessels showed a very slight arteriosclerosis; he stated that he had lost considerable in weight; his bleeding hemorrhoids had caused him a good deal of suffering.

*Examination* showed that his heart was slightly enlarged and the first sound reduplicated at the apex; lungs showed signs of consolidation of the right apex; the liver was much decreased in size and was not palpable; abdomen was relaxed; no distention or tenderness; no masses could be felt and there was no ascites; a rectal examination showed dilated hemorrhoidal veins that were oozing; the lymph-nodes were normal; skin showed slight cachexia but no eruptions and no edema; the lips were anemic, teeth poor, and tongue coated; neither kidney could be felt; the urine showed a specific gravity of 1.024 and was alkaline in reaction, with a slight amount of albumin, was red in color and heavy with blood-cells and a few leucocytes; the external genitals were normal.

*Cystoscopic examination* showed some congestion about the mouth of the left ureter, otherwise the mucous membrane of the bladder was normal; no obstruction in either ureter; urine drawn from the left kidney was bloody, that drawn from the right kidney was clear. Patient had been treated with potassium iodide in 5-grain doses, strychnine sulphate, calcium lactate, and by rest in bed; but there had been no difference in the amount of blood in his urine. A diagnosis of *renal varix* was made, and nephrotomy advised; operation was rejected until two weeks later, when his condition became so grave that he at last consented to an operation. At this time his hemoglobin was found to be 35 per cent.; leucocytes, 15,200; polymorphonuclear leucocytes, 49 per cent.; small lymphocytes, 50 per cent.; eosinophiles, 1 per cent. Morphologically, the cells showed advanced poikilocytosis with marked anemia; lymphocytes were all small.

In this desperate condition he was subjected to operation, with temperature of 99 degrees, pulse 96, and respirations 22.

*Operation*, December 12, 1908, by the writer. A rapid nephrectomy was done without any seeming shock to the patient; not more than a drachm of blood was lost during the operation; upon exposing the kidney it was found to be congested and the pelvis was swollen and contained bloody urine; there were no macroscopic changes in the kidney itself. The patient reacted well from the operation and his pulse never went above 112 nor his respirations above 24; during the next twenty-four hours he passed 1,300 cc. of urine; the pulse grad-



ually became slower, and twenty-four hours after the operation his condition was perfectly normal; the urine passed was clear, showing that the source of the hemorrhage had been removed; the dressings were changed and the wound condition was perfectly satisfactory; during the day he felt more comfortable, and at midnight he was sleeping normally, with temperature 98.4 degrees, pulse 90, and respirations 30. Shortly after that it was noticed that his respirations were more rapid, his pulse becoming weaker; at 2 A. M. there was sudden dilatation of the heart, and at 2.10 A. M. he died, forty hours after the operation.

*Examination of the removed kidney* showed it to be normal in size, the parenchyma was normal, and no signs of nephritis were present; there was a small cyst in the cortex filled with clear fluid. Sections were taken from the papillæ, and a typical condition of varix was found; the numerous venous and arterio-capillary spaces were markedly dilated, so that in places there was but a thin wall of cells between a number of blood sinuses, and on the surface the blood sinuses approached so nearly to the mucous membrane that the slightest violence would probably cause their rupture; a rupture of these, however, was not necessary, as a transudation of the blood-cells and of the blood elements would be easy through so thin-walled a vessel if on an exposed surface.

CASE II.—Referred by Dr. V. W. Weed. Woman, twenty-eight years old. As a child, the patient had an attack of typhoid fever which was followed by some cardiac trouble, the exact nature of which is unknown; she also claims to have suffered from malaria. Her menstrual history began at the age of nineteen and shows no marked abnormalities. Married. There is a possible history of specific infection by the Neisser bacillus. She gives a history of burning micturition with frequency and urgency, shortly after marriage; had had no trouble during her pregnancy one year ago; has one child—normal confinement. Four months previous to examination she discovered blood in her urine evenly mixed with the same, and a few drops following the close of micturition; catheter specimen was bloody; there was never any colicky pain; two months ago she began to have some increased frequency of urination; would pass her urine once at night and sometimes not at all; during the day she urinated four or five times; during the last four weeks she complained of pain low down in the right side but not severe; has lost twenty pounds in weight, and is steadily growing weaker; aside from this she does not complain of anything except the blood that she passed whenever she urinated; she stated that even after a night's

rest the urine was as bloody as it was at the end of an active day.

*Examination* of the patient revealed a woman of slight build, moderately anemic; heart and lungs normal; the right kidney was slightly enlarged, somewhat tender, and freely movable as far as the pelvic brim; the surface of the kidney was perfectly smooth; the left kidney was slightly movable. Urine: specific gravity, 1.017; trace of albumin; no sugar; blood-cells.

*Cystoscopic Examination*, April 16, 1908: No abnormalities could be noted in the bladder, with the exception of some thickening of the muscular bands; bladder capacity, 16 ounces; no irritability; urine, as drawn from the bladder by the catheter, was very bloody and contained a large amount of fresh blood, not clotted; there was nothing in the bladder to indicate the source of this hemorrhage; after washing the bladder the medium remained clear for one hour. Ureter openings normal; easily catheterized.

*Right Kidney*.—Urine flowed with perfect rhythm, drops coming every 15 seconds, averaging 52 drops to the minute; the urine obtained was perfectly clear and contained no blood cells, but was slightly tinged red as if it contained hemoglobin.

*Left Kidney*.—Rhythm normal; urine secreted very rapidly, 75 drops to the minute with an interval of three seconds between the drops; the urine was perfectly clear, almost the color of water.

*Microscopic examination* showed moderate number of renal epithelial cells from which there seemed to spring buds without any definite structure.

April 20, 1908, the bladder was again examined and no point of hemorrhage was found therein; urine that came from the right ureter opening was distinctly abnormal. Both ureters were catheterized again, and the urine obtained from the right kidney contained a small amount of blood; that from the left kidney was normal.

*Operation*, April 30, 1908, at the German Hospital. The kidney was easily delivered through the wound; it was found to be partially turned upon itself, without, however, any torsion of the ureter; the kidney was enlarged, and its central portion seemed to be somewhat grayer in color than the two poles; a pedicle clamp protected by rubber tubing was used to compress the renal vessels. The kidney was then split from pole to pole, a little posterior to its median line, down to the pelvis; no abnormality of any kind could be found. The pelvis was carefully examined and was found perfectly normal in size and position; palpation of the kidney demonstrated no abnormalities. Four mattress sutures of catgut were used to bring the split surfaces of the kidney in due apposition and hold them there; the peripheral edges of the



kidney were brought together with catgut sutures; after the clamp was removed—having been in place for about four minutes—there was free oozing from the kidney and it was found necessary to put in a few additional sutures. The kidney was then fixed to the muscular structures by four stay sutures of chromic gut, and the wound closed with the exception of an elliptical space  $1\frac{1}{2}$  inches long and  $\frac{1}{2}$  inch wide, which was packed with iodoform gauze. The patient stood the operation very well; during the first twenty-four hours there was considerable oozing of blood and urine from the wound, but during the next twenty-four hours this entirely ceased. Pulse, temperature, and respiration normal. An uneventful recovery followed, the wound healing *per primam*.

On the fifth day after the operation there were no microscopic or macroscopic blood elements to be found in the urine. From that day until the present—now ten months—she has remained entirely well and has gained greatly in weight; she has never had the slightest trace of blood in her urine since the operation.

In the treatment of these cases it is indicated first to wash out the pelvis of the kidney with a 1 to 5,000 solution of adrenalin chloride. If this fails and the patient is suffering from a loss of blood, operation is indicated.

Decapsulation of the kidney, bisection of the kidney and removal of the kidney are the three operative procedures which may be employed to relieve the patient. Of all these, bisection is by far the most rational.

The conclusions of the writer were as follows:

(1) Renal varix is a distinct pathological entity and may be described as an angiomatous disease of the papillæ renales, whose etiology and

pathology resemble that of varicocele, varicose veins of the leg, varicosities at the cardiac end of the stomach, hemorrhoidal varices, etc.

(2) Many of the so-called cases of essential hematuria are due to this condition of the kidney.

(3) It has its own distinct symptomatology; but it may be impossible to differentiate it, before operation, from hematuria due to nephritis and hematuria due to renal papilloma.

(4) In the majority of cases, at operation, when the kidney has been bisected, no gross pathological lesions will be noted, but on microscopic examination of the papillæ renales a typical angiomatous disease will be found.

(5) Renal decapsulation and fixation of the kidney will cure the cases of unilateral hematuria due to nephritis.

(6) Nephrotomy is the operation of choice, because it allows a thorough examination of the kidney, and also for the reason that it accomplishes exactly what the operation of multiple ligation does in the treatment of varicosities in other portions of the body, in that it cuts six of the main connecting venous radicles of the kidney and in this way destroys the varicosities.

(7) The incision should be made along Broedel's line so as to avoid injury to the arteries.

(8) Nephrectomy is indicated only when rapid and bloodless operation is demanded, or when nephrotomy fails to relieve the hematuria.

## THE HYGIENIC AND DIETETIC TREATMENT OF "SUMMER DIARRHEA."\*

By LE GRAND KERR, M.D.

Visiting Pediatricist to the Methodist Episcopal (Seney) Hospital, the Williamsburgh Hospital, and the Swedish Hospital, in Brooklyn, N. Y.

THE question of age incidence is, in part, within the realm of this paper. We know that the incidence of attack is very small under the age of three months, but from this

period there is a rapid increase until the age of two years is reached, and that the greatest mortality is during the last nine months of the first year of life. This incidence is analogous to the period during which the hygienic and dietetic care of the infant is most difficult.

\* Being the third paper in a symposium on "Summer Diarrhea; Brooklyn's High Mortality," read before the Medical Society of the County of Kings, June 15, 1909, and published in the July number of the *Amer. Jour. of Obstetrics*.



In the hygienic and dietetic management of these cases, the relative importance of the four chief etiological factors must be remembered. These are the soil, the season, the food and bacterial infection.

There are, however, many other factors which are favorable to the development of the disease. Insanitation in its broadest sense favors the disease; therefore, density of population or dwellings upon an unclean soil, insufficient sunshine, defective ventilation; maternal neglect, contaminated food, all have an influence.

The influence of the character of the soil, I believe, is a very decided one. A soil which is loose is one upon which infantile diarrheal mortality is likely to be high, and this influence is enhanced if the soil is polluted. Where the dwelling houses of any particular town have been built upon a foundation which is largely of rock and where there is little loose material upon the surface, the mortality from diarrhea is proportionately low, in spite of the existence of other factors which are not favorable to the infant.

This, I believe, is one of the important, if not one of the chief reasons why the infantile diarrheal mortality is less in the borough of Manhattan than in the other four boroughs. Manhattan Island is nearly all rock; its formation makes the matter of the prompt and efficient disposal of sewerage into the Hudson and East rivers a matter of comparative ease. Here, then, are two elements in which Manhattan has an advantage—suitable soil and efficient sewerage.

A third and very important factor also is the fact that its agencies for the care of infants are so numerous and efficient that sick infants are quickly sent away from the borough and are placed in the best possible surroundings for recovery. But, on the other hand, if these infants die, the mortality is not counted against Manhattan but against the place to which they are sent. Richmond borough is a favorite point to which such infants

are sent, and its mortality is, therefore, correspondingly high.

Because of the proximity of all the boroughs we may disregard the matter of season further than to state that whatever its mode of action may be a deficient rainfall in the summer season tends strongly toward the occurrence of the disease.

That there is a certain relation between the temperature and diarrhea is usually accepted, but how does this operate? There is a diversity of opinion because of the scarcity of facts.

Some hold that by prolonged high temperatures the sensitive system of the infant is depressed and therefore it is more susceptible to the disease. Such a proposition is untenable when we consider the health of the infants in tropical climates and in the warmer portions of our land, and recall the fact that the most easily depressed infants, those under three months, are practically immune from any except the most virulent infection.

Others claim the existence of a "miasm," dependent for its development upon prolonged high temperature. But this form of diarrhea is one largely of city life. Therefore we have a condition of soil sealed by concreted streets, a superior system of drainage, both of which militate against such a proposition. And further, if a "miasm" exists why does it favor females and show its greatest virulence against those infants between the ages of three months and two years?

Now, what real facts have we to help us?

(1) We have a disease which affects the alimentary system mainly. The clinical phenomena of convulsions, prostration, hyperpyrexia, etc., are simply secondary or reflex.

(2) It is not due to trauma, although trauma may be present as a late result.

(3) It is in no sense a constitutional disease.

(4) It is a straight out and out infection of the alimentary canal.

(5) It is most prevalent during the first two years of life.



Every one of these facts is consistent with the proposition that the disease is due to a contaminated food and particularly a fluid food. Then how does temperature operate on the food? A prolonged high temperature favors the growth of infective bacteria and processes of decomposition. Milk, which is the chief article of diet of many infants, offers a suitable nidus as far as moisture and pabulum are concerned, and if the temperature be raised the third favoring condition is established.

But irrespective of direct effect upon the milk, a prolonged high temperature favors the collection of dust and therefore its introduction into and upon food, and each particle may be the aeroplane for some organism.

When we experience a prolonged high temperature with little moisture we are also treated to a marked increase in the birth rate of flies. I have noted time and time again that when complaint is made of the abundance of these pests, and the complaint has been corroborated by the number caught by traps or paper, within a short time there is an increase in infantile diarrheal disease.

*The Direct Hygienic Treatment* involves the removal of the infant from the city as soon as practical. If a choice is made it should favor the seashore. It is not sufficient to send an infant away but it should be kept away for a considerable time, as the dangers of relapse are great.

The infant must be restrained, and if old enough to walk or creep must be placed where these are impossible of accomplishment, for even if strong enough to do so enforced rest harbors the strength of the infant. While thus controlled the infant should be kept in the open air as many hours of the day and night as possible.

The clothing should be loose and light but sufficient to protect the infant from sudden changes.

Water externally is important to allay the restlessness, reduce the fever and place the skin in a healthful condition. For the reduction of temperature the tub bath may be given at 100

degrees Fahr., and a gradual reduction made by the addition of iced water until the temperature of the bath is 85 degrees Fahr.

As soon as a napkin is soiled it must be removed and the removal must be two-fold—from the infant and from the room. Disinfection of the napkins and of the person of the one handling them is necessary.

Excoriations are to be prevented by the free use of boric acid in powder, or a zinc ointment.

*The Direct Dietetic Treatment* involves the withholding of all food during the first twenty-four hours of the attack. No matter how the infant may be nourished the giving of food at this time is harmful because digestion is practically arrested. The cravings of hunger and thirst may be allayed by the frequent administration of small amounts of sterilized water, thin barley water or cold whey made without beating the curd. If whey is made without beating the curd the percentage of fat which it contains is much below one per cent., but according to the muscular effort of the maker and the quality of the milk, vigorous breaking of the curd will liberate as high as three per cent. of the fat. Albumin water should not be given, as its ready decomposition may cause trouble and adds odor to the stools.

If the foregoing are vomited, absolute withholding of everything is essential.

If conditions are improved the infant may be allowed the breast after the first forty-eight hours, but with the restriction that nursing must be alternate and for not over three minutes. An increase is only made as the conditions continue to improve.

If artificially fed, the withholding of food must be for a much longer period, and in addition to what has been mentioned as useful during the acute stage, there may be used the farinaceous or malted foods without milk, bouillons, and the dextrinized cereals. Panopeptone, peptonoids or



bovine may be used if a stimulant is desired also.

No matter how rapidly the acute symptoms subside the return to the usual food must be very gradual and slow. These cases are frequently subjects of relapse and a relapse is often terminated by death within twenty-four hours.

It has probably occurred to you, as this paper was read, that I am a firm believer in the fact that infantile diarrheal mortality is a social as well as a medical problem and much of it is concerned with maternal care. Carelessness and ignorance may mean little as far as adult life is concerned, but in infantile life they are potent factors in the morbidity and mortality. It can not be too forcibly stated that in breast milk the infant finds a nutriment which is suited to its needs and to the normal functioning of its digestive organs. And this fluid food can not be perfectly substituted by any other known means of artificial imitation.

And when we consider the morbidity and mortality of infant diarrhea it is at once noticeable that they are much less frequent among the breast fed than the artificially fed.

But breast feeding is only a partial security; to serve its fullest purpose it must be given correctly. The mother who is nursing her own babe must be instructed as to how the food should be given, for with unintelligent management the breast-fed infant may suffer as well as its less fortunate brother. There are three chief ways in which instruction may be given with the object in view of lessening the mortality from infantile diarrhea: (1) The direct instruction of mothers in the care and management of infants; (2) the "follow up" system of female visitors to aid in such instruction; (3) the education of girls in domestic hygiene.

Present commercial and economic conditions compel the employment of married women, and while this is unfortunate it is a fact. There should be more perfect control of these occupations. This control should be such that a limit is placed upon the time before and after confinement

that a woman is allowed to work. And when the time limit is removed, the infant's care during the absence of the mother should be safeguarded. This means that more attention should be paid by the proper authorities to the regulation of day nurseries.

As practically every case follows some indiscretion in the diet, there must be the most scrupulous care taken that the infant is not overfed, that the feedings are not too frequent, that the formula is one suited to the infant's needs, and that the food is uncontaminated.

Further than this, when the temperature is high the food of the breast fed as well as the artificially fed baby must be reduced. In the breast fed this is done by giving an ounce or two of sterile water immediately before the nursing and in the bottle fed by adding water to the food.

Every diarrhea occurring in an infant during the months of June, July and August must be treated, as far as hygiene and the diet are concerned, as the possible beginning of a fatal disease. Anything short of this is neglect and may prove disastrous to the infant.

It has been accepted, in a general way, that the infantile diarrheal morbidity is greater among the poorer than the better classes, and among the congested portions of a city rather than the less populous. This indicates rather forcibly that the middle and better classes are consciously or unconsciously using the means to prevent such morbidity. It also indicates another thing—that more attention must be paid to the education of the less-favored classes.

There are two things needed by Brooklyn—an addition to the present agencies, which are taking up the work of the instruction of mothers, and the supplying of suitable milk or the great augmenting of such work by adequate financing of such agencies.

Just so long as the men of charity and means contribute to Manhattan agencies to the exclusion of the other boroughs, just so long will the present ratio of mortality be maintained.



# LONG ISLAND MEDICAL JOURNAL

A Forum for the Discussion of all Topics Involving the Medical Profession and especially that of Long Island.

EDITOR-IN-CHIEF

PAUL MONROE PILCHER, A.M., M.D.

ASSOCIATE EDITOR

JAMES MCFARLANE WINFIELD, M.D.

EDITORIAL OFFICE :

386 GRAND AVENUE, BROOKLYN, N. Y.

Further Information on advertising page 3

AUGUST, 1909.

## BY-LAWS OF THE ASSOCIATED PHYSICIANS OF LONG ISLAND.

*Amended to 1909.*

### ARTICLE I.

SECTION I. This Society shall be known as the Associated Physicians of Long Island. Its objects shall be those of a general and scientific medical society, the study of the natural conditions and the prevalent diseases of Long Island, and the promotion of the medical interests by the medical profession.

SEC. 2. Eligibility to membership shall be limited to regular practitioners who shall have the endorsement of the Membership Committee of the Society.

### ARTICLE II.

SECTION I. The officers shall be a President, and a Vice-President each from one of the County Medical Societies of Long Island, a Secretary and a Treasurer. They shall be elected by a majority vote at the Annual Meeting.

SEC. 2. There shall also be a Board of five Directors, consisting of the President, the retiring President, the First Vice-President, Secretary and Treasurer respectively, by virtue of their several offices.

SEC. 3. Should a vacancy occur in the Board of Directors it shall be

filled by the remaining members of the said Board.

SEC. 4. The Board of Directors shall have power to appoint delegates to other medical bodies when in their discretion expedient.

### ARTICLE III.

SECTION I. The following standing committees shall be appointed by the chair: A Scientific Committee, a Membership Committee, a Legal Committee, a Historical Committee, and a Committee on Public Health. The Historical Committee and the Committee on Public Health shall be permanent committees. When vacancies occur in the Historical Committee they shall be filled by the President of the Society.

SEC. 2. There may be such temporary committees appointed by the chair as are necessary, including a Local or Entertainment Committee for each session.

### ARTICLE IV.

SECTION I. Stated meetings shall be held three times a year, in June, October and January, respectively, the Annual Meeting to be held in Brooklyn in January, the June and October meetings to be held at places selected by the Board of Directors. Special meetings may be called by the President at the written request of five members.

SEC. 2. For scientific purposes a quorum shall always be presumed. For executive business twenty members shall be necessary.

### ARTICLE V.

SECTION I. The duties of the officers are explained in their titles. The Scientific Committee shall provide the program and have charge of the scientific session. It shall be the duty of the Membership Committee to secure



and recommend new members for the Society. The Legal Committee shall have charge of all legislative and legal matters of interest to the profession of Long Island. The Historical Committee shall be composed of a member from each County Medical Society of Long Island and shall collect historical data of interest to the profession on Long Island. The Committee on Public Health shall be composed of all Health Officers of Long Island who are members of the Society. This committee shall have charge of all matters pertaining to the public health and its scope shall also include the natural features and the endemic diseases of Long Island.

SEC. 2. The Committee on Publication shall consist of one member from each County Medical Society of the Association, and shall be elected annually by the Board of Directors. One member of said committee shall be elected by the Board of Directors as Editor of the *Journal* published by the Society, and chairman of the Committee. The President and Treasurer shall be *ex-officio* members of the Committee on Publication and shall be notified of all meetings of the Committee. The Committee shall have charge of the publication of the *Journal* of the Association, and shall publish in it the proceedings of the Association, and scientific papers read before it. They shall issue a revised edition of the manual of the Association after each Annual Meeting. They shall also provide a book for the registry of members attending each meeting.

SEC. 3. Papers read at any of the meetings shall be the property of the Association.

SEC. 4. The Board of Directors shall meet once before each stated

meeting and shall transact all business not otherwise provided for.

## ARTICLE VI.

SECTION 1. New members shall be admitted only upon the recommendation of the Membership Committee and a two-thirds ballot of those present and voting.

SEC. 2. All applications for membership shall be in the hands of the Membership Committee at least one month before each stated meeting.

SEC. 3. Every applicant for membership shall sign the printed application blank and accompany the application with the current annual dues.

## ARTICLE VII.

The regular dues shall be determined at the Annual Meeting. Special assessments, not to exceed in amount the annual dues, may be levied by a majority vote at any meeting.

## ARTICLE VIII.

A member who is in arrears for two years' dues shall be dropped.

## ARTICLE IX.

A member of the bar may be selected as Honorary Counsel.

## ARTICLE X.

The following shall be the order of business for the June and October meetings:

Reading of the Minutes.

Report of the Membership Committee.

Reports from other committees.

Unfinished business.

New business.

Scientific Session.

Adjournment.

## ARTICLE XI.

The following shall be the order of business for the Annual Meeting:

Reading of the Minutes.

Report of the Membership Committee.



Report of other committees.  
 Report of Secretary.  
 Report of Treasurer.  
 Report of Historian.  
 Unfinished business.  
 New business.  
 Election of Officers.  
 Scientific Session.  
 Installation of Officers.  
 Adjournment.

## ARTICLE XII.

SECTION 1. Amendments to the By-Laws may be adopted at any meeting, provided they are proposed in writing at the last previous meeting, and receive a two-thirds ballot of the members present and voting.

SEC. 2. A By-Law may be suspended for a specific time by a unanimous vote.

## MEDICAL NEWS.

Edited by JAMES M. WINFIELD.

**The Publication Committee** wishes to remind the members of the Association that if they are interested in the news items of the JOURNAL and wish to have this department continued they must do their share in helping the News Editor to collect the items.

It is perhaps true that many of the members do not consider that the local events are of any interest to the whole Association, but in spite of this the Committee would earnestly request that each member send anything that might be suitable for this department to the News Editor, and if he does not consider it of sufficient importance it will not be printed. Let him be the judge.

The Associated Physicians is as much a social body as scientific one, therefore, events such as marriages, births, deaths, or any other social item, can not help but be of interest to all of us.

**New Tuberculosis Hospital**—The Brooklyn Central Labor Union has obtained permission to erect and maintain a hospital for the care of tuberculous patients at Medford, in the town of Brookhaven, Suffolk County, L. I. They have purchased sixty acres of land and expect to erect a building containing at least

one hundred rooms. The estimated cost is about \$50,000.

**Medical Office Buildings**—In the near future Brooklyn is to have two medical office buildings, one is to be situated at Hanson Place and South Elliott Place, in the hill section, and the other will be down town on Joralemon Street.

**St. John's Hospital**—The Medical Board wishes to announce that the position of Visiting Anesthetist is vacant. Applications should be sent to Dr. F. H. Knight, St. John's Hospital, Albany and Atlantic Avenues, Brooklyn.

**The Williamsburgh Hospital**, located at the corner of Bedford Avenue and South Third Street, Brooklyn, has arranged to hold a fair in the fall of 1909, its purpose being to raise funds much needed by the hospital to enable it to carry on its work.

**Dr. Lewis S. Pilcher** has been made consulting surgeon to the Skin and Cancer Hospital of New York.

**Dr. Walter Truslow** was elected to membership in the American Orthopedic Association at the annual meeting in June at Hartford. Dr. Charles Dwight Napier is the only other Long Island member of the Association.

## MARRIAGES.

**Arthur Hubert Longstreet, M.D.**, to Mrs. Miriam Annette Kent, both of Brooklyn, N. Y., May 26th.

**Eliot Bishop, M.D.**, Brooklyn, N. Y., to Miss Pearl Rogers, of Wilkes-Barre, Pa., June 1st.

**Charles Eastmond, M.D.**, Brooklyn, N. Y., to Miss Bonnie Belle Dorland, of Arlington, N. J., June 16th.

**James Taft Pilcher, M.D.**, Rochester, Minn., to Miss Effie Dunkly Curtis, of New York City, June 30th.



# ASSOCIATED PHYSICIANS

OF

## LONG ISLAND

### OFFICERS

President—FRANK T. DE LANO, Rockville Centre, N. Y.  
First Vice-President—THOMAS R. FRENCH, 150 Joralemon Street, Brooklyn.  
Second Vice-President—FRANK OVERTON, Patchogue, N. Y.  
Third Vice-President—WM. B. BRINSMADE, 117 Montague Street, Brooklyn.  
Secretary—JAMES COLE HANCOCK, 135 Cambridge Place, Brooklyn.  
Treasurer—CHARLES B. BACON, City Hospital, Blackwell's Island.

### Board of Directors.

FRANK T. DE LANO, H. BEECKMAN DELATOUR,  
THOMAS R. FRENCH, JAMES COLE HANCOCK,  
CHARLES B. BACON.

### ACTIVE MEMBERS.

#### *BOROUGH OF BROOKLYN, KINGS COUNTY.*

#### A

Addoms, Lewis Paddock.....278 Halsey St.  
Ager, Louis Curtis.....160 State St.  
Alderton, Henry A.....142 Clinton St.  
Alkier, Stanislaw Joseph.....6 Sumner Ave.  
Allan, J. Glen.....141 Noble St.  
Alleman, Lewis A. W.....64 Montague St.  
Amador, Martin .....187 Park Ave.  
Anderson, Herbert C.....388 Clinton St.  
Anderson, Lewis Nostrand.....526 Bedford Ave.  
Anderson, Robert Burns.....925 Sterling Pl.  
Anderson, Samuel F.....765 Union St.  
Arrowsmith, Hubert.....170 Clinton St.  
Atkinson, Charles Lewis.....75 Hanson Place  
Atwood, A. Dalton.....980A DeKalb Ave.  
Ayers, Benjamin .....280 Jefferson Ave.

#### B

Bailey, Frederick D.....260 Hancock St.  
Baker, John Lockwood.....699 Putnam Ave.  
Baldwin, L. Grant.....28 Schermerhorn St.  
Barber, Calvin F.....57 South Oxford St.  
Barber, Vincent .....269 Arlington Ave.  
Bartley, Elias H.....65 South Portland Ave.  
Bates, Sherman W.....313 Wyckoff St.  
Bayles, Havens Brewster.....125 Seventh Ave.  
Beasley, Crawford D.....702 Greene Ave.



Becker, James Parker.....	1125	Bergen St.
Beers, Nathan T.....	516	Nostrand Ave.
Bell, Alfred .....	37	Linden St.
Bellows, Charles .....	433	Nostrand Ave.
Bender, Herman P.....	683	Bushwick Ave.
Bennett, Edward C.....	244	Seventy-third St.
Bennett, Franklin .....	686	Greene Ave.
Benton, Stuart H.....	720	Nostrand Ave.
Berlenbach, Philip H.....	9	Stuyvesant Ave.
Bernauer, Emil C.....	860	Lafayette Ave.
Bierwirth, Julius C.....	253	Henry St.
Biggam, William H.....	1197	Dean St.
Birmingham, Francis Henry.....	132	Montague St.
Bishop, Eliot .....	469	Gates Ave.
Bishop, Ernest S.....	919	Bedford Ave.
Blackmar, Bruce G.....	317	Ovington Ave.
Blaisdell, Silas C.....	500	Bedford Ave.
Blake, J. Eddy.....	352	Jefferson Ave.
Blatteis, Simon R.....	596	Willoughby Ave.
Bliss, R. Franklin.....	23	Seventh Ave.
Bodkin, Martin L.....	255	DeKalb Ave.
Boes, William .....	200	Graham Ave.
Bogart, Arthur H.....	135	Seventh Ave.
Bogart, J. Bion.....	463	Clinton Ave.
Bookbinder, J. ....	76	Suydam St.
Brader, William B.....	1198	Bushwick Ave.
Braislin, William C.....	556	Washington Ave.
Brinkman, Albert .....	176	Bergen St.
Brinsmade, William B.....	117	Montague St.
Bristow, Algernon T.....	234	Clinton St.
Brown, Frank E.....	591	Hancock St.
Brown, Henry E.....	1265	Bergen St.
Brown, Thomas E.....	278	Clinton St.
Browning, William .....	54	Lefferts Pl.
Brundage, Albert H.....	431	Gates Ave.
Brush, Arthur C.....	29	South Portland Ave.
Bryn, Harold .....	313	Union St.
Buckley, Charles F.....	802	Carroll St.
Buist, George L., Jr.....	3	Hancock St.
Butler, Glentworth R.....	229	Gates Ave.
Butler, William E.....	113	Halsey St.
Byrne, John B., Jr.....	224a	Sixth Ave.

## C

Campbell, William Francis.....	394	Clinton Ave.
Carèy, John J.....	287	Hoyt St.
Carpenter, Frank E.....	688	Madison St.
Catlin, Arnold Wells.....	207	Greene Ave.
Chapman, William L.....	19	Lafayette Ave.
Chase, Walter B.....	936	St. Marks Ave.
Clark, Frank H.....	758	Putnam Ave.
Clark, Raymond .....	310	Clinton Ave.
Clayland, John M.....	152	Hewes St.
Cochran, George C.....	1905	Eighty-sixth St.
Collins, Burnett C.....	645	St. Marks Ave.



Colton, Frederick H.....	136 Montague St.
Cornwall, Edward E.....	1239 Pacific St.
Costello, Patrick Vincent.....	195 Euclid Ave.
Coughlin, Robert E.....	428 Forty-seventh St.
Cox, Charles N.....	257 Jefferson Ave.
Crane, Claude G.....	119 Halsey St.
Crawford, John Fancher.....	236 Carroll St.
Cross, Frank Bethel.....	141 Seventh Ave.
Cruikshank, George H.....	140 Sixth Ave.
Cruikshank, William J.....	102 Fort Greene Pl.

## D

Dattlebaum, Maurice J.....	458 Stone Ave.
Davis, George H.....	484a McDonough St.
Davis, Wiliam Henry.....	871 Park Pl.*
Deely, George Edward.....	169 Woodruff Ave.
Delatour, H. Beeckman.....	73 Eighth Ave.
De Long, William A.....	170 Bainbridge St.
De Lorme, Murrett F.....	344 Jay St.
DeWaltoff, Dayve.....	451 Forty-seventh St.
Dewing, Oliver M.....	Long Island State Hospital
Dexter, Thurston H.....	411 Hancock St.
Dickert, John D.....	922 Bushwick Ave.
Dickinson, Robert L.....	168 Clinton St.
Dillon, William.....	192 North Sixth St.
Dixon, Herbert S.....	141 Lewis Ave.
Dowd, James H. B.....	3923 Fort Hamilton Ave.
Doyle, Francis Benedict.....	311 State St.
Droge, D. H.....	8 Stuyvesant Ave.
Drury, George.....	235 Washington Ave.
Dudley, William F.....	32 Livingston St.
Duffield, Warren L.....	119 Berkeley Pl.
Durham, Roger.....	322 Park Pl.
Durkee, John W.....	142 Clinton St.

## E

Eastman, Frederick C.....	1269 Bergen St.
Eastmond, Charles.....	382 Adelphi St.
Edson, Benjamin.....	83 St. Marks Ave.
Erdmann, Adolph Frederick.....	458 Ninth St.
Evans, George A.....	909 Bedford Ave.

## F

Fairbairn, Henry A.....	249 McDonough St.
Figueira, Mathias.....	14 Stuyvesant Ave.
Fiske, Edwin H.....	20 Fort Greene Pl.
Fitzgerald, J. F.....	Kings County Hospital
Fleming, James W.....	471 Bedford Ave.
Foote, Lewis N.....	147 Hancock St.
Fowler, Russell S.....	301 DeKalb Ave.
Fraser, Homer E.....	18 South Portland Ave.
French, Thomas R.....	150 Joralemon St.
Frischbier, Charles P.....	865 Halsey St.
Frischbier, Otto G.....	235 Humboldt St.



Frost, Samuel .....	254 Garfield Pl.
Fuhs, Jacob .....	871 Park Pl.
Fulda, Carl .....	1096 Halsey St.

## G

Gallagher, James T.....	449 Lafayette Ave.
Geis, Norman P.....	1325 Pacific St.
Genthner, Philip J.....	384 Court St.
Gildersleeve, Charles P.....	18 Schermerhorn St.
Goodrich, Charles H.....	280 Park Pl.
Gordon, Charles A.....	596 Hancock St.
Gordon, Onslow A.....	71 Halsey St.
Grant, Walter S.....	340 Stuyvesant Ave.
Griffing, George P.....	136 Milton St.
Griffiths, Albert T.....	1115 Ocean Ave.
Guenther, T. C.....	20 Seventh Ave.

## H

Hall, Gordon R.....	164 Clinton St.
Haller, J. Frederick.....	291 Stuyvesant Ave.
Hamlin, George D.....	1260 Pacific St.
Hancock, James Cole.....	135 Cambridge Pl.
Harrigan, John .....	401 Clinton St.
Harrington, Burt D.....	50 Lenox Rd.
Harris, Burton .....	28 Clifton Pl.
Harrison, Daniel A.....	31 Sidney Pl.
Hatch, Edwin A.....	857 Marcy Ave.
Hawley, George R.....	203 Gates Ave.
Hegeman, Thomas B.....	2603 Newkirk Ave.
Henderson, George E.....	61 Taylor St.
Henry, Charles C.....	56 Clark St.
Herriman, Rudolph L. F.....	1083 Bushwick Ave.
Hicks, Edward E.....	295 Stuyvesant Ave.
Hirseman, Walter G.....	408 Clinton St.
Hodges, Edward .....	156 Halsey St.
Hoffmann, Henry O.....	138 Prospect Park W.
Holden, Frederick C.....	63 Seventh Ave.
Hoole, Lester Page.....	974 St. Marks Ave.
Horni, John .....	179 Penn St.
Horstman, August G.....	Jewish Hospital
Howe, Alexander Coddling.....	307 Cumberland St.
Hoxie, Edward Hazard.....	1 Hart St.
Hubbard, William S.....	1138 Bergen St.
Hulse, Clarence H.....	206 Monitor St.
Humpstone, O. Paul.....	105 Greene Ave.
Hussey, Augustus A.....	295 Hancock St.
Hyde, Clarence R.....	126 Joralemon St.

## I

Ingalls, James W.....	874 Lafayette Ave.
Ives, Robert F.....	8504 Twenty-second Ave.

## J

Jackman, Luther Taylor.....	257 Twelfth St.
Jameson, P. Chalmers.....	139 Montague St.
Jenkins, Charles Rivington.....	600 Lorimer St.
Jennings, John E.....	164 Halsey St.



Jewett, Charles .....	330 Clinton Ave.
Jewett, Frederick A.....	282 Hancock St.
Jewett, Harold F.....	1072 Bergen St
Jewett, William A.....	380 Vanderbilt Ave.
Joachim, Henry .....	2 Brevoort Pl.
Joerg, Oswald .....	12 Schermerhorn St.
Joiner, William E.....	582 Bedford Ave.
Judd, Albert Martin.....	375 Grand Ave.

## K

Kasper, Gerard .....	714 Macon St.
Keil, Peter A.....	164 Arlington Ave.
Kene, Joseph A.....	64 Greene Ave.
Kennedy, James C.....	762 Willoughby Ave.
Kerr, Le Grand.....	42 Gates Ave.
Kevin, J. Richard.....	252 Gates Ave.
Keyes, James J.....	226 Seventeenth St.
Kinne, William .....	48 Fourth Ave.
Kirk, F. James.....	233 Weirfield St.
Knause, B. Frank.....	1076 Bushwick Ave.
Koerner, William F.....	154 Rodney St.
Konther, Adolph Frederick.....	184 Ridgewood Ave.
Kuhn, George R.....	122 Clinton Ave.

## L

Lack, C. Eugene.....	692 Tenth St.
Lamadrid, Julio J.....	412 Greene Ave.
Langstaff, Lewis G.....	175 Sixth Ave.
Lanza, Michele .....	97 Schenck Ave.
Lawrence, Andrew Wilson.....	558 Bedford Ave.
Lee, John A.....	23 Revere Pl.
Lester, John C.....	175 Schermerhorn St.
Lewis, Maurice T.....	414 Fifty-fifth St.
Lindridge, Edward F.....	424 Vanderbilt Ave.
Little, George F.....	469 Clinton Ave.
Little, William A.....	923 Bedford Ave.
Loewe, Jacques .....	71 McKibben St.
Longmore, John A.....	26 Schermerhorn St.
Longstreet, Arthur Hubert.....	20 Seventh Ave.
Louria, Leon .....	249 Hewes St.
Love, Cornelius R.....	167 Clinton St.
Lubrecht, Charles A.....	966 Bedford Ave.
Lucas, David F.....	552 Pacific St.
Ludlum, Walter J.....	262 East Fifteenth St.
Luhrsen, Ernest Frederick.....	292 Greene Ave.
Lutz, Stephen H.....	284 Hancock St.

## M

MacCoy, Cecil .....	151 Clinton St.
MacEvitt, James .....	514 Ninth St.
MacEvitt, John C.....	407 Clinton St.
MacGilvary, Stanley H.....	822 Bedford Ave.
MacNaughton, Donald Stuart.....	479 Clinton Ave.
MacVean, Charles H.....	1315 Fifty-second St.
McChesney, Herman Franklin.....	90 Halsey St.
McClelland, Lefferts A.....	78 McDonough St.



McCorkle, John A.....	149 Clinton St.
McEntee, Edward J.....	93 Lee Ave.
McNamara, Sylvester James.....	369 Union St.
McNaughton, George .....	479 Clinton Ave.
Maddren, William Harvey.....	131 South Oxford St.
Manecke, Phillipp .....	1058 Bushwick Ave.
Mangan, Daniel C.....	95 Park Ave.
Manley, Mark .....	261 Monroe St.
Manning, Charles .....	480 Putnam Ave.
Marsh, Edward F.....	448 Ninth St.
Marshall, Joseph Hall.....	536 Monroe St.
Matheson, A. Ross.....	37 Seventh Ave.
Matheson, Sewall .....	173 Underhill Ave.
Matson, Nathaniel .....	1249 Pacific St.
Mayne, Earl H.....	8744 Eighteenth Ave.
Medd, John C.....	210 Garfield Pl.
Merzbach, Joseph .....	198 Eighth Ave.
Meyer, Joseph.....	216 Van Buren St.
Michel, Leo L.....	173 Hooper St.
Mills, Henry M.....	192a Sixth Ave.
Miller, Francis H.....	64 Pennsylvania Ave.
Miller, George Isaac.....	700 St. Marks Ave.
Miller, Lewis H.....	109 Halsey St.
Moitrier, William .....	454 Putnam Ave.
Monaghan, Frank J.....	1069 Bushwick Ave.
Moore, S. Edward.....	1332 Myrtle Ave.
Morris, Edward J.....	976 St. Marks Ave.
Morrison, Robert J.....	354 Tompkins Ave.
Morton, Henry H.....	32 Schermerhorn St.
Morton, Lawrence J.....	Fort Hamilton Parkway and Eighty-eighth St.
Mosher, Burr Burton.....	44 Court St.
Moxom, Philip W. T.....	1807 Ditmas Ave.
Munson, Forbes J.....	330a Lafayette Ave.
Muren, G. Morgan.....	36 Orange St.
Murray, Archibald .....	361 Henry St.

## N

Napier, Charles Dwight.....	494 Washington Ave.
Nichols, Louis L.....	386 Stuyvesant Ave.
North, Nelson L.....	150 Hancock St.
Northridge, Thomas H.....	320 Cumberland St.
Northridge, William A.....	402 Washington Ave.

## O

O'Connell, Joseph J.....	190 Eighth Ave.
Ohly, John H.....	22 Schermerhorn St.
O'Reilly, Henry M.....	82 Sixth Ave.
Ostrander, George A.....	61 Greene Ave.
Otis, F. Burton.....	369 Hancock St.

## P

Paffard, Frederick C.....	238 Clinton St.
Palmer, Ernest.....	155 Clinton St.
Pentlarge, Victor H.....	916 Union St.
Peterman, Charles P.....	809a Greene Ave.
Pettit, Henry S.....	Adelphi College
Philleo, Willis H.....	155 Herkimer St.



Pilcher, Lewis S.....	386 Grand Ave.
Pilcher, Paul.....	386 Grand Ave.
Polak, John O.....	287 Clinton Ave.
Pomeroy, Ralph H.....	511 Nostrand Ave.
Pool, William P.....	147 Clinton St.
Potter, Alfred.....	523 Twelfth St.
Price, Henry R.....	435 Clinton Ave.
Prout, Jonathan S.....	26 Schermerhorn St.

## Q

Quell, John A.....	478 Decatur St.
--------------------	-----------------

## R

Rae, Alexander.....	117 Henry St.
Rankin, John.....	600 Jefferson Ave.
Rankin, William H.....	151 Hancock St.
Rathbun, Nathaniel P.....	442 Greene Ave.
Rauth, Emil.....	695 Lafayette Ave.
Raynor, Frank C.....	157 Clinton St.
Read, Henry N.....	228 Clinton St.
Read, John S.....	228 Clinton St.
Reb, John H.....	328 Jay St.
Reed, George E.....	737 Putnam Ave.
Reeve, Albert L.....	420 Gold St.
Reichers, George Henry.....	1411 Bushwick Ave.
Reynolds, Willard G.....	516 Nostrand Ave.
Riggs, Herman C.....	117 Montague St.
Roberts, Dudley D.....	84 Remsen St.
Robertson, Victor A.....	834 Union St.
Rogers, Herbert C.....	377 Gates Ave.
Rogers, H. Edward.....	813 Willoughby Ave.
Rosecrans, William Brink.....	1494 Greene Ave.
Ross, Walter H.....	215 Jefferson Ave.
Royce, Rubert S.....	211 Greene Ave.
Rushmore, Jacques C.....	477 Washington Ave.
Russell, Julien W.....	6 Plaza St.

## S

Salmon, Armond J.....	166 Sands St.
Sauer, C. Theodore.....	284 Sixth Ave.
Schauf, Adam.....	198 Vernon Ave.
Schelling, Henry L.....	264 Stuyvesant Ave.
Schirmer, William C.....	596 St. Marks Ave.
Schlitz, Francis Augustus.....	28 Jefferson St.
Schoenijahn, W. Carl.....	822 Union St.
Schroeder, Frederick, Jr.....	22 St. Johns Pl.
Schroeder, William.....	339 President St.
Scofield, Charles Edward.....	72 Lee Ave.
Scott, Peter.....	126 New York Ave.
Search, Charles J.....	453 Franklin Ave.
Shea, J. Denton.....	427 Eighth Ave.
Shepard, William H.....	415 Fifty-sixth St.
Sheppard, John E.....	130 Montague St.
Sherman, Wesley.....	336 Ninth St.
Sherwell, Samuel.....	33 Schermerhorn St.
Sherwood, Walter A.....	298 Garfield Pl.
Shipley, Alfred E.....	111 Halsey St.



Shoop, Frederick J.....	316	Cumberland St.
Simmons, Warren S.....	216	St. James Pl.
Simmons, William.....	23	Schermerhorn St.
Simrell, George W.....	190	Clarkson St.
Skelton, Eugene Wilson.....	296	Sixth Ave.
Sloat, Horace M.....	149	Van Buren St.
Smith, Edward J.....	2016	Albemarle Rd.
Smith, George Albert Hayes.....	313	Sixth Ave.
Smith, Henry Mitchell.....	113	Montague St.
Smith, J. Wheeler.....	685	St. Marks Ave.
Smith, William Sidney.....	373	Washington Ave.
Somers, James Alpheus.....	96	Greene Ave.
Spence, Thomas B.....	139	Seventh Ave.
Stammmer, Charles Edward.....	193	St. Nicholas Ave.
Sterling, John H.....	45	Hanson Pl.
Stern, Bernard.....	2604	Avenue F
Stevens, Joseph William.....	835	Hancock St.
Stickle, Charles W.....	130	Montague St.
Stivers, George L.....	303	Vanderbilt Ave.
Stivers, John R.....	180	Lefferts Pl.
Stoney, Frank E. A.....	229	Eighty-second St.
Straub, George C.....	846	St. Johns Pl.
Sturges, Purdy H.....	145	Seventh Ave.
Sullivan, John D.....	74	McDonough St.

## T

Taddikin, Paul G.....		Long Island State Hospital
Tag, Charles H.....	168	Keap St.
Tarbox, Harry R.....	1178	Dean St.
Taylor, John M.....	438	Third St.
Taylor, J. Richard.....	1275	Bedford Ave.
Taylor, Stephen L.....	644	St. Marks Ave.
Taylor, Vernon E.....	427	Decatur St.
Thayer, Nathan P.....	1433	Ave. H.
Thomas, Jerome B.....	64	Montague St.
Thompson, James E.....	223	Greene Ave.
Tilney, Frederick.....	47	Pierrepont St.
Todd, Joseph F.....	402	Sterling Pl
Tomes, William Austin.....	500	Classon Ave.
Townsend, Palmer.....	588	Jefferson Ave.
Treadwell, George H.....	64	South Portland Ave.
Truslow, Walter.....	494	Washington Ave.
Tuthill, James Y.....	100	Fort Greene Pl

## V

Van Cott, Joshua M.....	188	Henry St.
-------------------------	-----	-----------

## W

Wade, H. Albert.....	495	Greene Ave.
Wadsworth, Emory M.....	1270	Pacific St.
Wagner, John J.....	28	Seventh Ave.
Warbasse, James P.....	386	Washington Ave.
Waterman, James Sears.....	676	St. Marks Ave.
Waugh, Darwin W.....	388	Clinton St.
Waugh, Henry H.....	39	Schermerhorn St.
Webster, Henry Goodwin.....	162	Halsey St.
Weed, Ver Nooy W.....	1238	Halsey St.



West, Frank E.....	172 Clinton St.
Westbrook, Richard W.....	1145 Dean St.
Wheeler, Robert T.....	209 Hewes St.
White, Henry D.....	206 Garfield Pl.
Whitehouse, Louis A.....	631 Lafayette Ave.
Wight, J. Sherman.....	30 Schermerhorn St.
Williams, George A.....	449 Hancock St.
Williams, John G.....	753a Union St.
Williams, Ralph Clark.....	515 Forty-seventh St.
Wilson, Edwin B.....	80 Fenimore St.
Wilson, Frank E.....	1242 Bushwick Ave.
Winfield, James M.....	47 Halsey St.
Wood, J. Scott.....	172 Sixth Ave.
Wood, Walter C.....	1276 Pacific St.
Woolsey, William C.....	88 Lafayette Ave.
Wunderlich, Frederick William.....	165 Remsen St.

## Y

Yerdon, Charles F.....	1276 Herkimer St.
------------------------	-------------------

## Z

Zimmerman, Victor L.....	271 Stuyvesant Ave.
--------------------------	---------------------

## QUEENS-NASSAU AND SUFFOLK COUNTIES.

## A

Allen, S. P.....	Riverhead
Ambler, Alfrecs.....	611 Thirteenth St., College Point
Anderson, Andrew J.....	28 Stevens St., Long Island City
Auger, Henry M.....	Jamaica

## B

Baker, Clarence A.....	Yaphank
Baker, William A.....	Islip
Baldwin, L. C.....	Bellport
Barker, H. L.....	Woodside
Barnes, Irving F.....	Oyster Bay
Barry, John H.....	153 Eleventh St., Long Island City
Bates, Ferdinand J.....	Setauket
Benjamin, Frank E.....	Shelter Island
Benjamin, John H.....	Riverhead
Blanchard, A. J.....	Jamaica
Bloodgood, John F.....	Flushing
Bodine, L. A. S.....	East Hampton
Boettinger, C.....	440 Ditmas Ave., Long Island City
Bogart, John H.....	Roslyn
Briggs, A. Francis.....	139 Fifth St., Long Island City
Brundage, John D.....	Westhampton Beach
Brush, Barton W.....	Woodside
Bumster, P. H.....	36 Ely Ave., Long Island City
Burnett, W. J.....	127 Third St., Long Island City
Burns, James E.....	Glen Cove

## C

Caldwell, M. Stuart.....	Far Rockaway
Capron, A. C.....	Kings Park
Carman, E.....	Freeport
Carter, Herbert G.....	Huntington



Chattle, T. H.....	Good Ground
Cleghorn, Charles Dalton.....	Garden City
Cleghorn, Guy F.....	Mineola
Cocke, William I.....	Port Washington
Coffin, L.....	Bay Shore
Combes, Abbott C.....	Elmhurst
Cooley, James S.....	Glen Cove
Corwith, Silas R.....	Bridgehampton

## D

Davis, M. B.....	Patchogue
De Lano, Frank T.....	Rockville Center
Dietrich, A. E.....	Bay Shore
Dildine, Frank C.....	Port Jefferson
Donahue, George H.....	Northport
Dow, H. D.....	Maspeth
Dowsey, George H.....	Great Neck

## E

Edwards, David.....	East Hampton
---------------------	--------------

## F

Faller, George W.....	Oyster Bay
Fensterer, Gustav A.....	Floral Park
Finch, F. A.....	Amagansett
Fletcher, Frederick W.....	Freeport
Folger, Rupert.....	Whitestone
Forbes, George.....	307 Jamaica Ave., Long Island City
Foster, J. M.....	Valley Stream
Fowler, P. Van Benschoten.....	Center Moriches
Frey, W.....	44 Ely Ave., Long Island City

## G

Gibson, H. G., Jr.....	Central Islip
Gibson, William B.....	Huntington
Grimmer, R. D.....	262 Fulton Ave., Hempstead

## H

Halsey, Hugh.....	Southampton
Halsey, James L.....	Islip
Harding, James R.....	College Point
Hartrauft, J. M.....	Southold
Hazen, Roland.....	Brentwood
Hendrickson, Samuel.....	Jamaica
Hewlett, Harold.....	Babylon
Hewlett, William H.....	Babylon
Heyen, John P.....	Northport
Higgins, Aaron L.....	Rockville Centre
Hinckley, F.....	Central Islip
Houghton, Harris A.....	Bayside
Hulse, W. A.....	Bay Shore
Hunter, G. S.....	Sag Harbor
Hutcheson, J. Ensor.....	Rockville Centre

## J

Jaques, A. D.....	Lynbrook
-------------------	----------

## K

Kerrigan, Joseph A.....	Hempstead
Kindred, John Joseph.....	Astoria
Kittell, Martin M.....	180 Shelton Ave., Jamaica



## L

Lanehart, Louis Nott.....	Hempstead
Lawrence, Enoch P.....	147 Amity St., Flushing
Lindsay, Walter.....	Huntington
Lippman, Thomas C.....	Sag Harbor
Loper, Arthur C.....	Greenport
Luce, Charles A.....	Amityville
Ludlum, Charles H.....	Hempstead

## M

MacClymont, D. C.....	Kings Park
MacDonald, Henry.....	Morris Park
MacLean, B. P.....	Huntington
McKenna, Henry J.....	113 Fifth St., Long Island City
McKeown, Patrick.....	141 Third St., Long Island City
Macy, William A.....	Kings Park
Malcolm, William J.....	Jericho
Mann, John.....	Old Westbury
Manning, Gus R.....	80 Lincoln Ave., Rockville Centre
Many, Bradley F.....	Port Jefferson
Markham, Convas L.....	Amityville
Merritt, Frederick C.....	Sayville
Meynen, George K.....	Jamaica
Miles, Clarence C.....	Greenport
Moore, Edwin S.....	Bav Shore
Moore, J. P.....	Astoria
Moss, L. Howard.....	Elm St. and Orchard Ave., Richmond Hill
Mulcahy, William L.....	Central Ave., Far Rockaway

## N

Niesley, Charles M.....	Manhasset
Nugent, John.....	Southampton

## O

O'Hanlon, George.....	Kings Park
Overton, Frank.....	Patchogue

## P

Payne, Albert E.....	Riverhead
Peterson, Frederick C.....	Smithtown

## R

Rave, Adolph G.....	Hicksville
Rave, Edward G.....	Hicksville
Rhame, William.....	Wantage
Rodger, Davis R.....	88 Union Pl., Richmond Hill
Roe, William H.....	Patchogue
Rogers, Benjamin F.....	Eastport
Ross, William Holmes.....	Sayville
Ross, William H.....	Brentwood

## S

Savage, William B.....	East Islip
Schirck, Frederick Foster.....	Mineola
Schmuck, J. Carl.....	Lawrence
Scovil, William T.....	Richmond Hill
Seaman, Benjamin W.....	Lincoln Ave., Rockville Centre
Sheridan, Joseph P.....	Morris Park



Shipman, Elliott W.....	446 Church St., Richmond Hill
Skidmore, Melville.....	Centre Moriches
Skinner, Barton D.....	Greenport
Skinner, Erasmus D.....	Mineola
Slocum, M. M.....	Far Rockaway
Smith, George A.....	Central Islip
Spiro, W. W.....	116 Third St., Long Island City
Stanley, Grant.....	Sea Cliff
Steele, W. J.....	Baldwins
Stokes, John W.....	Southold

**T**

Terry, Arthur H.....	Patchogue
Turrell, Guy H.....	Smithtown Branch

**U**

Ullman, Albert E.....	Kings Park
-----------------------	------------

**V**

Valentine Ferdinand C.....	Belle Harbor
Van Deinse, A. P.....	Sayville
Vaux, George L.....	Central Islip

**W**

Wahlig, Herman G.....	Sea Cliff
Waldo, Ralph .....	Westhampton
Warner, Henry W.....	Hempstead
Weekes William C.....	Babylon
Wells, Charles E.....	Sag Harbor
West, Calvin B.....	Central Islip
Whitney, C. E.....	Central Islip
Willis, W. Charles.....	272 East Main St., Patchogue
Wilsey, O. J.....	Amityville
Witmer, A. F.....	Freeport
Wood, Philip M.....	448 Fulton St., Jamaica

**Z**

Zabriskie, William H.....	Glen Cove
---------------------------	-----------

*BOROUGH OF MANHATTAN.*

De Forest, Henry P.....	150 West 47th St.
Durand, A. Walter.....	31 Nassau St.
Emery, Z. Taylor.....	66 Broadway

*NEW YORK STATE.*

Bacon, Charles B.....	City Hospital, Blackwell's Island
Elliott, Robert M.....	Willard State Hospital, Willard, N. Y.

*NEW JERSEY.*

Bell, J. Finley.....	Englewood
Trask James D.....	Highlands

**HONORARY MEMBERS.**

Theodore Roosevelt.....	Ex-President of the United States
Leonard Wood.....	Major-General United States Army
Paul Eugene Jones (Legal Counsel).....	Mechanics' Bank Building, Brooklyn
William James Morton.....	19 East 28th St., New York City
George Henry Fox.....	616 Madison Ave., New York City
George G. Scott.....	College of the City of New York



## COMMITTEES OF THE ASSOCIATED PHYSICIANS OF LONG ISLAND.

### *Scientific.*

WARREN L. DUFFIELD, Brooklyn, Chairman.  
HARRIS A. HOUGHTON, Bay Shore.    HAROLD HEWLETT, Babylon.

### *Historical.*

JAMES S. COOLEY, Glen Cove, Chairman.  
WILLIAM SCHROEDER, Brooklyn.    WALTER LINDSAY, Huntington.

### *Publication.*

PAUL M. PILCHER, Brooklyn, Chairman.  
JAMES M. WINFIELD, Brooklyn.    WILLIAM H. ROSS, Brentwood.  
LOUIS N. LANEHART, Hempstead.

### *Legal.*

WILLIAM E. BUTLER, Brooklyn, Chairman.  
GEORGE K. MEYNEN, Jamaica.    ROBERT J. MORRISON, Brooklyn.

### *Membership.*

HENRY L. SCHELLING, Brooklyn, Chairman.  
SAMUEL HENDRICKSON, Jamaica.    ARTHUR D. JAQUES, Lynbrook.  
ALBERT E. PAYNE, Riverhead.    ROBERT E. COUGHLIN, Brooklyn.  
IRVING S. BARNES, Oyster Bay.    JOHN P. HEYEN, Northport.  
EDWARD F. MARSH, Brooklyn.

### *Public Health.*

ARTHUR D. JAQUES, Lynbrook, Chairman.  
WILLIAM B. GIBSON, Huntington.    FRANK OVERTON, Patchogue.

### *Entertainment.*

FRANK H. CLARK, Brooklyn, Chairman.  
HENRY MACDONALD, Morris Park.    EDWIN S. MOORE, Bay Shore.



# TRANSACTIONS

## OF THE

### ASSOCIATED PHYSICIANS OF LONG ISLAND

*34th Stated Meeting, Blue Point, L. I.*

The President, F. T. DE LANO, M.D., in the chair.

The meeting was called to order and the minutes of the previous meeting read and approved.

The annual address of the president was then read.

In accordance with the suggestion of the president contained in his address, it was moved and seconded that the Association recommend to the Board of Directors that future June meetings be regarded more as outings, that scientific papers be read by title only and that all discussion be omitted. Adopted by vote of the association.

It was moved and seconded that the investigations of conditions of health on Long Island be referred to the Public Health Committee. Carried.

The following men were elected to membership:

Charles L. Atkinson, 75 Hanson Place, L. I. C. H., 1900.

William B. Rosecrans, 1494 Greene Avenue, Albany, 1901.

Ralph Waldo, Westhampton, L. I., N. Y. University, 1882.

George P. Griffing, 135 Milton Street, Bellevue, 1873.

Henry E. Brown, 1265 Bergen Street, L. I. C. H., 1897.

George G. Cochran, 1905 Eighty-sixty Street, P. & S., 1884.

Charles D. Cleghorn, Garden City, L. I., P. & S., 1904.

Aaron L. Higgins, Rockville Centre, L. I., Tufts, 1907.

Leo L. Michel, 173 Hooper Street, U. & B., 1899.

Benjamin W. Seaman, Rockville Centre, L. I., Cornell, 1907.

O. J. Wilsey, Amityville, L. I., N. Y. University, 1878.

Robert F. Bliss, 23 Seventh Avenue, P. & S., 1901.

Ronald Hazen, Brentwood, L. I., Univ. Penn., 1891.

Henry M. O'Reilly, 82 Sixth Avenue, Jefferson, 1896.

William Rhane, Wantagh, L. I., P. & S., 1876.

Wesley Sherman, 336 Ninth Street, L. I. C. H., 1876.

H. O. Hoffman, 138 Prospect Park West, Wurtzburg, 1873.

Frank J. Monaghan, 1059 Bushwick Avenue, L. I. C. H., 1894.

John J. Kindred, Astoria, L. I., Louisville, 1889.

Gus R. Manning, Rockville Centre, L. I., Freiburg, 1898.

William H. Davis, 871 Park Place, Univ. Maryland, 1902.

Sherman W. Bates, 303 Wyckoff Avenue, Univ. Buffalo, 1895.

John W. Stokes, Southold, L. I., Jefferson, 1904.

B. P. MacLean, Huntington, L. I., U. & B., 1906.

W. C. Willis, Patchogue, L. I., Eclectic, 1907.

Enoch P. Lawrence, Flushing, L. I., N. Y. Univ., 1880.

Frank E. Carpenter, 688 Madison Street, L. I. C. H., 1883.

Thomas E. Brown, 278 Clinton Street, N. Y. Univ., 1890.

Charles E. Stammler, 193 St. Nicholas Avenue, P. & S., 1885.

Joseph Meyer, 216 Van Buren Street, P. & S., 1877.

J. Bookbinder, 76 Suydam Street, L. I. C. H., 1896.

Roy D. Grimmer, Hempstead, L. I. S. E. Moore, 1332 Myrtle Avenue, Buffalo, 1895.

Albert Brinkman, 176 Bergen Street, N. Y. Univ., 1883.

Louis Whitehouse, 631 Lafayette Avenue, Bellevue, 1891.



A. D. Atwood, 980a DeKalb Avenue, Buffalo, 1879.

F. L. MacCrea, Port Jefferson, L. I., L. I. C. H., 1907.

An oral report was made by the chairman of the Publication Committee.

The Committee on Country Home tendered a report, which was accepted, and on motion, seconded and carried, the committee was discharged with the thanks of the association.

The following resignations were received and accepted:

Warren S. Shattuck, Elliott Dorn, E. W. Wright.

### *Scientific Session.*

#### **PARATHYROIDS AND TETANY.**

A paper with the above title was read by S. P. Beebe, M.D., of the Laboratory for Experimental Pathology, Cornell University.

It was discussed by Drs. Brush and Bartley.

#### **SOME POINTS IN THE DIAGNOSIS AND TREATMENT OF ACUTE PLEURISY.**

A paper with the above title was read by W. H. Rankin, M.D.

The meeting then adjourned.

JAMES COLE HANCOCK,

*Secretary.*

### **PARATHYROIDS AND TETANY**

Dr. S. P. BEEBE said that the functions of the thyroid and parathyroid glands, and the fact that the parathyroid has a function which is vital and distinct from the thyroid, is just being investigated at the present time.

The first observations as to the fact that the thyroid had any functions at all were made in 1850 to 1860. They were, however, very confusing, because different investigators used different animals for these purposes, and it is most highly essential that all investigators use the same kind of animals because the anatomy differs in different animals. At the same time they did not recognize that there was a parathyroid. In 1880 the parathyroid was discovered, and its discovery forgotten until 1895, when it was made again and its significance was entirely overlooked at that time, and the ideas which were brought out still prevail in a large measure.

Some investigators still believe the parathyroid is only an embryological element which, under stimulating circumstances, will develop into thyroid tissue and take on the function of the thyroid gland. Within six months a paper has been published by a prominent English investigator, in which he again maintained that same position, and his position is based on histological and anatomical studies, so that at the present time there are two distinct theories in regard to the nature

and function of the parathyroid and these are first that it is a separate structure and has an independent function, one that is vital in the physiological order and second, that it is merely a remnant, which, under proper circumstances, will develop into thyroid tissue and take on the structure and function of the thyroid gland. These theories are opposed to one another and both can not be right.

The first theory has been established through histological and anatomical studies and the second by experimental work. No amount of histological study will controvert an experimental demonstration that the two are *distinct in function* regardless of how completely they may resemble each other in structure. The demonstration that the thyroid and parathyroids have distinct characteristic functions of their own has only recently been made, but he thought that all physiologists would not accept the fact that a demonstration had been made. It is done something in this fashion: Different sorts of animals are operated on, and the symptoms the animals show after operation are observed. The results of feeding different kinds of gland extracts to the operated animals is also noted. A common laboratory animal easy to handle is the rabbit; another is the dog. The anatomy differs, however, in these animals. In the



rabbit it is possible to remove all the thyroid without disturbing the parathyroid; in the dog that can not be done, so that the results of experiment on the two sorts of animals were at one time directly opposed to one another, and bitter controversies arose over that point.

Small animals, like the rat, have had this operation done, and later when the animal has developed tetany and is dying of tetany, sections have been made of the whole neck region showing all parathyroid tissue taken out and all thyroid tissue taken out, and the animal dies of tetany. The reason why the results obtained by various investigators differed was because some did not remove all the parathyroid tissue. If you remove all the parathyroid tissue from any animal you are bound to get an acute tetany. Its development depends upon the age, previous character of the diet, and treatment of the animal after the operation. In the dog the demonstration is not easy, because the parathyroid is intimately connected with the thyroid. The dog has four parathyroids and two thyroids. He may have six or only three. One pair is located at the anterior pole just at the bifurcation of the superior artery; the other pair is on the external surface of the gland. Sometimes you find imbedded in the thyroid gland some parathyroid tissue. The posterior four-fifths of the thyroid and parathyroids have been removed, leaving the anterior one-fifth and superior pair of parathyroids. The animal goes along perfectly well and no symptoms result. If, on the other hand, with the cautery you burn out four parathyroids, and the animal has no accessory parathyroids, tetany develops within 20 to 60 hours, and in the large percentage of cases the attack is fatal. Nine-tenths of the thyroid tissue in the dog has been removed without any disturbing symptoms.

Another fact demonstrating the independent function of the two glands is that any animal which has developed tetany is given extracts of the

fresh parathyroid glands, the development of tetany is inhibited, and if the animal is not severely infected you can temporarily cure it. The particular part of the gland to be used is the nucleo-proteid. This can not be done by feeding thyroid gland extract. This shows the two substances are different sorts of proteid. The functional activity of the thyroid depends on the iodine content in it. Hunt has recently stated you can get functional activity of the thyroid free from iodine, but the speaker believed that his results were inaccurate, because his methods of determining iodine have not been accurate enough to determine small quantities. The speaker never found a thyroid gland which contained no iodine.

As to the reason why an animal gets tetany after the parathyroids have been removed, personally he believed it due to an interference with some of the intermediary steps of nitrogen formation, resulting in the development of toxic substances, which ordinarily after they are formed are changed and do not poison the animal body.

A theory advanced by MacCallum is that the calcium metabolism of the body is under the control of the parathyroids. With the disappearance of the parathyroids the calcium content in the tissue is disturbed, and he believed falls below the margin of safety, and the animal develops tetany for that reason.

If you take an animal in typical convulsions similar to those of an epileptic convulsion and inject intravenously a small quantity of a soluble calcium salt, the convulsion is stopped almost instantly.

During last winter he saw three cases of gastric tetany. Calcium lactate injected intravenously stopped the whole process in a short space of time.

*Conclusions.* The parathyroids are related to the thyroids, but have an independent function. The two structures physiologically have an identity of their own. The reason why tetany develops after the parathyroid is



removed is some process of intermediate nitrogenous metabolism is interfered with, how, he did not know, but to such an extent that toxic substances arise in the body of the animal sufficient to poison it and produce convulsions, which finally result fatally.

Dr. A. C. BRUSH said he remembered a case in which the thyroid was removed by Dr. Fowler. The patient came to the Kings County Hospital each spring for four successive years with tetany. She was fed on thyroid extract, which was the accepted treatment at that time. On her fourth re-

turn the disease proved fatal. Probably the first three times she received an extract containing also the parathyroid and the last time she did not.

Last summer he had a case of tetany in which he gave the parathyroid extract. It had no effect. The girl died after eight weeks. What the reader of the paper has said about the unstable nature of the extract explains its failure in this case.

#### **SOME POINTS IN THE DIAGNOSIS AND TREATMENT OF ACUTE PLEURISY.**

A paper with the above title was read by W. H. Rankin, M.D.

## **TRANSACTIONS OF THE BROOKLYN SURGICAL SOCIETY**

*Regular Meeting, March 4, 1909.*

The President, C. H. GOODRICH, M.D., in the chair.

#### **LARGE MULTIPLE CYSTOMA IN A MIDGET.**

Dr. J. S. WIGHT reported the case of a woman, age forty-two, born in United States, occupation, theatrical; single. Family history negative. Previous personal history negative. Began to menstruate at the age of thirteen; menstruation normal until nine years ago, when it suddenly stopped. She then noticed a swelling on the left side of the abdomen; the tumor continued to increase in size. During the last three months she has had pain from pressure, her limbs swelling; her respiration has been rapid, her appetite has been poor, bowels loose, and she has been unable to find any position in which she could sleep more than a few moments at a time.

She came to him December 7, 1908, and he found, on examination, that the patient was a midget 3 feet 6 inches high, and was suffering with a large ovarian cyst. He sent her to the Long Island College Hospital. It was found that she was voiding from sixteen to twenty ounces of urine a day. She was prepared for operation. He made an incision from two inches

above the umbilicus down to the crest of the pubes and exposed the cyst wall from which he evacuated five quarts of fluid and drew the sack down to the abdominal cavity. After separating extensive adhesions to the intestines, a second cyst then presented itself; its contents were evacuated, measuring four quarts. The adhesions between its wall and intestines were so firm that he was obliged to peel off a portion of the outer wall of the cyst and leave it attached to the intestines. The operation was then completed by removing the entire uterus and appendages, draining through the vagina, closing the abdominal wound.

She was placed in bed, the foot of the bed elevated for fifteen minutes, then the head of the bed was elevated and kept in that position for the first week of her convalescence. Her pulse appeared to be normal, at about 100 to 110 when she entered the hospital; it rose and remained between 120 to 130 for the first week and then gradually came down to about 100; respiration ranged to about 30 during her entire convalescence. The quantity of urine voided in twenty-four hours



varied from seven ounces to twenty ounces during the first week then increased to as high as twenty-eight ounces.

She was under an anesthetic two hours and fifteen minutes and was given a stimulating enema. She had to be catheterized for the first two weeks. The vaginal packing was renewed on the second day, thereafter every other day. Granulations were touched with 10 per cent. nitrate of silver solution.

She went home on the twenty-ninth day after an uninterrupted recovery.

#### **MALIGNANT DISEASE OF THE SUPERIOR MAXILLARY BONE.**

Dr. J. S. WIGHT stated that this patient, who came before the society October 4, 1906, wearing at that time a plate to fill in the defect in the roof of his mouth made by removing half of the superior maxillary bone, had consented to come here again to-night to show his freedom from recurrence and the admirable construction of a prosthetic plate that had served to protect this area by closing it off from the rest of the buccal cavity.

He was operated on June 27, 1906, and has so far been free from any recurrence.

The speaker also called attention to the method of reflecting the flap in this case and the admirable cosmetic result.

#### **DIAPHRAGMATIC HERNIA.**

Dr. W. F. CAMPBELL presented this patient, male, Italian, 28 years old and a hod carrier. Four days previous to his admission to the hospital was taken with a sudden pain in the neighborhood of the splenic flexure. Pain was not severe but was rather a feeling of soreness. The day previous he had been working hard, but the day on which the attack occurred he was resting. The following day the pain somewhat increased and was accompanied by vomiting. He was attended at his home by a physician, who finally made a diagnosis of intestinal obstruction and sent him to the hospital three days after the onset.

From the patient it was difficult to elicit a satisfactory history because of his ignorance of the language. But four facts stand out prominently, namely: That while the pain was sudden, it was not severe; it was always located in the splenic flexure; while there was vomiting it was never profuse or fecal; there was no movement of the bowels from the onset of the attack.

Examination of the patient showed a temperature of 100°, pulse 84, respiration 22. The patient showed signs of little distress, no shock, and could not see the necessity for operation. The abdomen was characteristically distended. The distension was not symmetrical, it followed the course of the colon and ended at the splenic flexure, and there was a marked flattening corresponding to the area over the descending colon.

A diagnosis was made of intestinal obstruction at the splenic flexure.

*Operation.* The patient was anesthetized and an incision six inches long made along the left border of the rectus muscle beginning at the costal margin. Intra-abdominal examination showed that there was marked distension of the transverse colon which ended at the beginning of the splenic flexure and was followed by an empty descending colon.

It was easily demonstrated that the colon was constricted through a ring-like opening in the diaphragm, the margins of which could be demonstrated by the tip of the finger.

An effort was made by means of steady traction to pull the herniated colon out of the ring and back into the abdominal cavity, but all conservative efforts failing, the thorax was opened by resecting a portion of the seventh and eighth ribs. It was now seen that about eight inches of the colon with the attached omentum occupied the thoracic cavity and that the opening in the diaphragm must be enlarged in order to make a safe replacement. After some difficulty the herniated colon was replaced in the abdominal cavity, the diaphragm sutured, and the parietal wounds closed



in the usual manner, the thorax with a drain.

The following day patient had a satisfactory movement of the bowels. Condition continued excellent for about ten days, when he suddenly developed thoracic symptoms which seemed to indicate an empyema and general sepsis from which he died two weeks after operation.

*Autopsy.* Fairly well-nourished man. No signs of violence or wound infection on the surface of the body. No abnormalities of limbs.

Left thoracic cavity filled with whitish, thick pus compressing the lungs of the same side and pushing the heart toward the right. Transverse colon and adherent momentum present inside thoracic cavity. Spleen normal in size, fresh adhesions to the diaphragm. Inferior border of the stomach, transverse colon, small intestine and omentum in the neighborhood of the splenic flexure all matted together and presenting many pus pockets around the crura of the diaphragm. The adhesions extended as far as a line drawn transversely through the umbilicus. Below that the intestines were free though ballooned and their walls injected.

There were a few tiny pus pockets around the inferior surface of the liver.

A detailed examination of the area of adherent omentum and gut around the splenic flexure showed evidence of previous hemorrhage and beginning necrosis.

A curious phenomena at this region was the fact that a part of the posterior wall of the stomach was drawn up through the diaphragmatic opening and was adherent to its margins. The hernia undoubtedly occurred through a congenital opening in the left ligamentum arcuatum externus.

#### ABSCESS OF THE BRAIN.

Dr. W. F. CAMPBELL said this patient was a salesman, age 34. When patient was twelve years old he was struck on right side of head with a baseball bat and ever since then he has complained of severe pain and headaches on that side.

About two weeks ago patient was incapacitated from work and confined to bed by illness of a doubtful nature, associated with a fever and an increase in his headache. He improved and about a week ago his temperature was normal and he insisted upon going to work, which he did. But the next day he was ill again and forced to go to bed; this time he vomited, and two days before admission to hospital, found that *his left arm refused to obey his will*, was becoming stiff and finally remained in a fixed, flexed position against his chest, his fist clenched. Upon attempting to get up he fell over, his left leg being also powerless and rigid. This has remained. His mind has become clouded, so that he can talk but little and answer only simple questions in a *whisper*. Rectum and bladder move involuntarily. Syphilis denied; alcohol in moderation. Patient was admitted to medical division of M. E. Hospital. On admission temperature was 99.4°, pulse 80, respiration 26.

*Physical Examination.* Well-nourished young man, medium build; unconscious, but responds slightly; eyes normal, pupils equal and react normally; tongue coated; sordes on teeth; heart normal in size, but sounds are indistinct, fair muscular tone, no murmur; lungs normal; abdomen negative; left arm and leg spastic and paralyzed; knee jerks equal but slightly exaggerated; Babinski reflex present in left foot, not in right; sphincteric control lost; arteries slightly thickened; glands not enlarged.

*July 1, 1908.* Examined by Dr. J. Scott Wood and eyes were found to be normal. No congestion of disc found, no albuminuric retinitis.

*July 2, 1908.* Patient examined by Dr. Glentworth Butler and case diagnosed as one of brain abscess, or cerebral tumor, more probably an abscess. He localized the seat of trouble at the right Rolandic area.

Blood examination showed 17,400 leucocytes and polynuclears, 78.5 per cent.

No urine specimen could be obtained as it was passed involuntarily with feces.



Blood culture taken on admission was negative.

Spinal puncture made with a negative result.

The day following his admission the patient's temperature dropped to 98.6 degrees and pulse to 80. From then on the temperature slowly rose to 102 degrees and the pulse to 110. The mental condition became steadily more clouded and on the day of his transfer to the surgical division the patient was unconscious. The spastic hemiplegia persisted to the same degree as on admission. No facial palsy made out. During all this time feces and urine were passed involuntarily.

On July 3d, the patient was prepared and operated on.

A very small amount of chloroform was used for the operation. A rubber tube tourniquet was put around the skull. The Rolandic area (right) was marked out by the usual method, and a semi-circular flap was dissected upward over the right motor area after removing a button of bone. The dura was opened and the brain tissue was found to be normal. An aspirating needle (two inches long) was inserted in all directions at a point just anterior to the upper one-third of the fissure of Rolando, but no pus was found. The dura was sutured and iodoform gauze placed in wound.

Following the operation temperature went up to 103.4 degrees, pulse 120 and respiration 30.

Patient never regained consciousness and died at the end of twelve hours.

*Autopsy.*—Skull opened. Membranes showed no sign of a meningitis.

Brain was removed, and on inspection before sectioning there was seen a slight bulging of the anterior portion of the occipital lobe on the right side. Transverse section of right hemisphere of brain showed an abscess about three inches in diameter containing about two ounces of a yellowish-green pus. A shell of brain substance about one-half to one-quarter inch thick, separated the abscess

from lateral sinus and from base of brain.

No other pathological lesions were found in brain.

Mastoid cells and petrous portion of temporal bone appeared normal.

*Note.*—The abscess seemed confined more to the anterior half and lower part of the occipital lobe. The corresponding convolutions overlying the area involved were not specified in the autopsy report.

Here then was a case where the localizing symptoms pointed clearly to the Rolandic area and where the lesion was in the occipital lobe.

#### MALPOSITION OF THE SIGMOID COLON.

Dr. W. F. CAMPBELL said the average length of the pelvic, or as it is more commonly termed, the *sigmoid colon*, is seventeen inches. Its length varies between five and thirty-five inches. This part of the large intestine usually begins at the brim of the true pelvis on the left side, where it obtains a mesentery, fan-shaped and of varying length. Obviously certain pathologic states will depend very much on the length of this mesentery. In the pelvis proper the sigmoid colon describes the letter S curve but its terminal portion forms an omega-shaped loop with the fixed portion of the rectum. In the child at birth it is proportionately longer than in the adult and it *lies in the abdomen*.

It is manifestly evident that if the sigmoid colon be longer than normal, it will have to seek accommodation beyond its usual confines. If in addition to its increased length, the bowel is diseased to an extent which will bring about inflammation of its peritoneum, it may become anchored in quite a few abnormal positions.

This, the speaker believed, is exactly what has happened in the specimen here presented. He based his belief to a great extent upon a peculiar condition of the common iliac vessels in this body. He pointed out that they were contorted and consequently lengthened; it appeared to



him that this was the result of lateral pressure in years gone by.

A search through the literature reveals the fact that a condition of lengthened and abnormally fixed pelvic colon is by no means a rarity, but a case as markedly developed as this one. He had been able to find just one—a specimen which like this was discovered at the autopsy table and reported by Tuttle of New York.

#### COMPLETE AVULSION OF THE SCALP.

Dr. W. F. CAMPBELL presented a patient 23 years old. American. Employed as cashier in department store.

On May 15, 1908, while stooping down to pick up a coin that fell from the cash drawer, her hair caught in the wheel of some electrical apparatus below her desk. The accident apparently occurred so quickly that the patient did not feel any pain or lose consciousness. The injury was undoubtedly attended by an electrical shock, for it produced ecchymosis of the right side of the neck and shoulder, epilating her eye-lashes.

It was some time after the accident before operative procedure was undertaken. During this period there was a continuous loss of blood and the patient began to show evidence of acute anemia. At no time, however, was there loss of consciousness.

Upon admission to the hospital the scalp was torn from the skull and detached for about two-thirds of its area, the frontal portion hanging over the eyes, the occipital portion hanging down over the neck. There was a loss of scalp substance to the extent of about four inches square.

After replacing the scalp and suturing it in position it was found that there was a denuded bony area of the skull corresponding to the loss of scalp tissue.

The subsequent treatment consisted in the application of wet saline compresses. After about four

weeks treatment it was found that the denuded bony area was necrosing and it was soon possible to detach and remove the external table of the skull corresponding to the denuded area. After this the granulation tissue began to form in the diploë and soon there was presented an area sufficiently healthy to maintain skin grafts. At this time the nutrition of the skull was further increased by Bier's passive hyperemia treatment. A silk elastic being worn about the neck during the day with small gauze pads inserted over the course of the jugular veins. From this time on the healing was exceedingly rapid, and skin grafting was done at intervals of about three weeks. After a series of eight skin graftings, lasting over a period of twenty weeks, patient was discharged cured.

#### THYROIDECTOMY.

Dr. C. H. TERRY presented a girl, 16 years old, who came into St. Mary's Hospital last May with an enlargement on the right side of the neck—a goitre. On May 28th he removed it under cocaine. There was very little hemorrhage and the wound healed fairly well. During the operation he got to the bottom of the wound, but could not find the isthmus. After putting on a hysterectomy clamp he divided the tumor with the cautery, and the end that was left he drew together with mattress sutures.

The first two days the girl was extremely nervous and restless, but she made a good recovery.

#### PROSTATECTOMY.

Dr. C. H. TERRY said this patient, a man 65 years of age, came to the hospital last May. He had complete retention of urine, which was due to an enlarged prostate. May 18th the prostate was removed through a perineal wound. He had great difficulty in getting a staff into the bladder on account of false passages. However, he readily removed the prostate and put a drain



into the bladder, which remained in for eight days. He was free from pain during this time. He had a discharge from the perineal wound for thirty days. Since that time, every four to six weeks, the speaker passes a sound into the bladder. There is now no residual urine. For a short time he had a little incontinence, especially when he bent over, but that has entirely disappeared. He sleeps all night without any urinary inconvenience.

#### EXOPHTHALMIC GOITRE.

Dr. F. W. WUNDERLICH said this patient, a woman, age 33, single, native of Sweden, had had symptoms of Graves' disease for about four years. She noticed a swelling of the thyroid first. Subsequently she became nervous and suffered with palpitation and oppression. She did not notice the exophthalmos until about two years ago, when a physician in Washington, D. C., called her attention to it.

At the time of her first visit to the speaker's office she presented very severe symptoms, tremor, palpitation, tachycardia; the pulse was rapid and irregular, ranging from 140 to 160, loss of appetite, loss of weight and strength, loss of sleep, owing to oppression and choking sensation at night.

He fully explained the dangers of the operation to her, and to relieve sufferings he would remove the right lobe and the isthmus of the thyroid gland, since the left lobe was but little enlarged and would probably shrink after the operation.

November 5th he excised the right lobe and isthmus by Kocher's angular incision. After the right lobe and isthmus had been liberated and the tumor dislocated to the left, the isthmus was ligated in sections, at its junction with the left lobe, and cut off. Muscles and fascia were united with catgut, the skin with interrupted silk sutures, and a glass drain inserted at the lower angle of the wound.

During the first week after operation the patient was extremely nervous and complained of oppression at night. Bromides were administered to quiet her and camphoric acid to check profuse night sweats. During the second week she became more quiet, and the pulse came down to 90. She left the hospital December 1st and has steadily improved since.

#### RUPTURED EXTRA-UTERINE PREGNANCY.

Dr. F. W. WUNDERLICH said this patient, age 31, native of United States, had one child 10 years of age, and had had five miscarriages. July 26th was seized with violent pains in the abdomen. Dr. Paffard, who was called to attend the patient during his absence from the city, found her with symptoms of profound shock and internal hemorrhage due to a ruptured extra-uterine pregnancy.

When he saw her on the following morning, the symptoms were not so severe.

She was sent to the Skene sanitarium, and since the symptoms were not urgent the operation was postponed until July 28th. On opening the abdomen, it was found to be a tubal pregnancy which had ruptured into the folds of the left broad ligament. After ligation of the ovarian vessels at the brim of the pelvis and the uterine vessels at the cornu of the uterus, fetus and sack were removed, and the folds of the broad ligament brought together with interrupted sutures.

After careful toilet, the abdominal cavity was closed with a continuous catgut suture of the peritoneum and of the fascia, the skin was sutured with silk. The patient had a very thick layer of subcutaneous fat on her abdomen, and for several days a profuse watery discharge escaped from the wound; however, the entire wound healed by primary union.

The patient was discharged from the sanitarium August 10th, and has been in good health since.



**TENDON SUTURE.**

Dr. F. W. WUNDERLICH presented a boy, age 17, who with a penknife made a cut across his left wrist and severed the tendons of the extensor primi internodii pollicis and extensor secundi internodii pollicis, on October 4th. He came to his office a short time after the mishap occurred. Under chloroform anesthesia the wound was enlarged, the tendons were sutured with thin catgut and the skin with silk. The wound was dressed with gauze, the hand covered with cotton, placed on a splint and bandage applied.

October 12th, when the bandage was removed, it was found that the catgut had been absorbed too quickly and that the patient by premature motion had severed the tendons again.

October 16th, under anesthesia, the wound was opened to make secondary sutures. The tendon of the extensor secundi internodii pollicis had retracted considerably and a more extensive dissection became necessary. The tendons were sutured with chromicized catgut, the skin with silk, the wound dressed with gauze, the thumb, hand and lower end of forearm covered with cotton and held in proper position with a plaster of paris bandage. The bandage was removed October 26th, there was good union, and the patient has had full use of his thumb since.

**SUTURE OF THE RUPTURED TENDON  
OF THE QUADRICEPS EXTENSOR  
CRURIS.**

Dr. F. W. WUNDERLICH stated this man, age 54, a policeman, was admitted to St. Peter's Hospital November 6, 1906. While wrestling, his foot slipped, he felt himself falling backward and made a sudden effort to bring the body forward and ruptured the tendon of the quadriceps extensor cruris. Owing to an attack of acute rheumatism the operation had to be postponed until November 22d. The tendon was exposed by a longitudinal incision, the sheath was distended with fluid, the tendon was ruptured transversely, and the ends,

although separated over an inch, were brought in apposition without much force and united with interrupted sutures of kangaroo tendon. The sheath of the tendon was closed with a continuous catgut suture and the skin with silkwormgut sutures. The wound was dressed and the leg put on a posterior splint. The further progress of the case was uneventful and the patient was discharged from the hospital December 22, 1906.

**SUBCLAVICULAR DISLOCATION OF  
THE HUMERUS.**

Dr. WUNDERLICH reported the case of a patient, aged 48, native of England, who was admitted to St. Peter's Hospital, May 12, 1908, with a subclavicular dislocation of the left humerus, of ten weeks' standing.

At the time of admission he complained principally of pain and numbness in the hand and fingers. The muscles of the arm were very much wasted. Vigorous and prolonged attempts were made to reduce the dislocation with the various methods which have been recommended, and when all were unsuccessful it was decided to resect the head of the humerus, giving a better chance for securing a moveable joint.

Allowing the patient several days' rest to recuperate from the severe handling during the attempts to reduce the dislocation, the cutting operation was resorted to May 20th.

The operation was done according to Ollier's method. The displaced head of the humerus rendered the operation more difficult and tedious than it would have been with the bone in normal position. The head of the humerus was severed from the shaft with an osteotome. This facilitated the separation of the head from the surrounding parts, partly by dissection, partly with elevator and osteotome. A counter opening was made back of the posterior border of the deltoid for drainage and a glass tube inserted. The operation wound was closed with silkwormgut sutures. Unfortunately secondary infection took place nine days after operation, resulting in suppuration and delayed



healing. Patient was discharged from the hospital June 26, 1908.

Dr. M. FIGUEIRA said in these cases it is well to try to replace the bone in the glenoid cavity, cutting down on the bone, without resecting the head of the humerus. Of course, in advanced cases the danger is of rupturing the vessels by pulling. Sometimes after eleven weeks the bone can be replaced in the glenoid cavity and the dislocation reduced without excising the head of the bone, and the results will be better.

Dr. W. C. WOOD said he wanted to take exception to the last statement of Dr. Figueira. He said the results will be better, provided you save the head of the bone, at three months' dislocation. A man will have more strength in his arm, but less motion. It depends on the man's occupation as to which is advisable. A dislocation of three months he had been able to reduce without any operation by manipulation and traction. He had also reduced them, saving the head of the bone, putting the head of the bone into the perfect position Dr. Figueira had advised, but most of these cases where the head of the bone had been out for three months there is an amount of ankylosis of the shoulder joint, which impairs the motion of the arm to a considerable extent. The patient has more strength than this man apparently has, but he has not as free motion.

On the other hand, in the same class of cases he had excised the head of the bone and had got a result equal to the one shown. It was a question of a person's occupation, a reposition without exsection or a reposition with exsection.

Dr. F. W. WUNDERLICH said that surgical authorities do not recognize a period of three months as a short one in dislocation of the shoulder, and while he had not a great deal of personal experience in the matter, still looking over the statistics he was quite sure that in old dislocations attempts at forcible reduction give not so favorable results than resection of the head of the bone.

## RENAL VARIX.

Dr. PAUL PILCHER read a paper on this subject, being a study of three personal cases.

### *Abstract of Discussion.*

Dr. LEWIS S. PILCHER said that some fifteen years ago a gentleman, 60 years of age, consulted him in consequence of the presence of considerable blood in his urine. He was in good health and with no other symptoms. He gave him a prescription containing ergot and gallic acid, and expected he would have a long period of trouble with him. He came back again in a few days to say that the hemorrhage had ceased, and from that time to the present he has continued free from his hematuria. He did not understand the pathology at that time and was not sure he understood it now by any means; but these observations Dr. Paul Pilcher had submitted, gave him a clue to the conditions that might have been present.

Some five or six years ago there came under his care a man between 40 and 50 years of age, who had been suffering for some time from the presence of a large amount of blood in his urine. He had been leading an active out-door life and was a robust man. His only complaint was he had been passing blood in his urine. The speaker could find no reason for it. There was no symptom which pointed to the kidney particularly. The bleeding continued notwithstanding rest in bed and the use of hemostatics. As he was not expert in the use of the cystoscope, he opened the bladder above the pubis. The morning this was done no bleeding was taking place. The bladder was clear and examination of the ureteral openings did not reveal the presence of any blood coming from either side into the bladder. There was, however, quite manifest a varicose condition of the prostatic veins visible about the internal meatus. This was the only condition discoverable at that time, which might be the source of the hemorrhage into the bladder that he had to deal with. Assuming that to be the case he dilated



the internal meatus with his finger so as to relieve, so far as dilatation might, any constriction which might by its presence prevent ready flow of blood through the prostatic veins. Sure enough, during the remainder of the time this gentleman was under observation no further blood appeared in his urine. The suprapubic incision healed in due time and the man went to his home in a distant State. A year after the speaker heard that he was then dying of unquestionable carcinoma of the kidney. Now it was plain that the symptomless hematuria had been an early symptom of a condition of carcinomatous degeneration of one of his kidneys.

The speaker reported these cases as illustrating some of the characteristics and possibilities of symptomless hematuria. He believed the observations made by Dr. Paul Pilcher in the paper of the evening to be of the highest practical value.

Dr. W. C. Wood said the subject interested him much because the day before a man of 26 years came under his care for hematuria without symptoms. He had been bleeding continuously since September with the exception of some two weeks in December, when intermission followed some eight weeks' profound rest in bed. There had been many attempts made to determine the source of the bleeding by cystoscopy, but at no time had the urine been clear enough to determine the source of the bleeding. He would like to ask Dr. Pilcher how he proceeds in this case.

The bladder had been washed repeatedly with various solutions. One attempt of two hours' duration was made to determine the source of the bleeding by the cystoscope, and the statement was made that it was impossible to do so.

Dr. PAUL PILCHER said, in reply to Dr. Wood, that there are some cases in which it is absolutely impossible to make a diagnosis. In some cases where it had been impossible to catheterize the ureters under ordinary conditions, he has been able to do so

in this way: Using the direct catheterizing instrument, he placed the cystoscope in such a position that he knew it to be in the region of the ureter openings, and then having an assistant with a syringe in his hand and the light turned on, he had looked at the spot where he thought the ureter opening should be; the assistant then began to inject water through the instrument, it being ejected through the beak and cleared away the surface for the moment, long enough to catch a glimpse of the ureter opening and slip in the catheter. He did not know whether it would be possible to do this in his case or not. The air cystoscope or segregator might be used.

No one cystoscope can be used in all cases. Sometimes he uses more than one cystoscope in the same case before he can accomplish a result.

#### INTRA-ABDOMINAL INCARCERATED HERNIA.

DR. G. I. MILLER said that on August 1, 1908, he was called by a physician to see a patient who was 50 years of age, well preserved and weighing 220 pounds. While attending his business four days prior to the date of his visit, he experienced severe pain in the right iliac region particularly in the region of the appendix. The pain was very severe so that he was obliged to be in bed and keep the right leg drawn up. He vomited several times and was constipated.

For the last ten years he had suffered from some discomfort in the abdomen. Three years ago the discomfort increased with occasional attacks of pain in the lower right quadrant of the abdomen. He followed advice given to him at the time and put on a truss which he has worn ever since.

During one of his uncomfortable attacks about 6 months ago a most careful examination failed to reveal an existing hernia.

When he saw him this time he was in bed, complained of pain in the right iliac region and a feeling of fullness in the abdomen. On inspection he found the abdomen very much distended, innumerable small dilated



veins beneath the skin gave the whole surface a bluish tinge. There was rigidity of the muscles in the region of the appendix and downwards to the pubic bone. Per rectum he felt a resisting mass. The liver dullness extended about an inch and a half below the ribs.

He had a chronic bronchitis. He advised the patient to go to the hospital, but he positively refused. Two days after this he was again called and found that the pain and tenderness in the right iliac region had increased. By this time he could feel a mass or swelling of some kind about the head of the cecum. The report of his blood count made in a laboratory showed a leucocytosis of 15,200. Next day the patient was admitted to the Jewish Hospital.

*Operation.*—The abdomen was opened by an oblique incision over the appendix region. After the peritoneum was well opened there was a thin transparent additional layer of peritoneum covering what proved to be the cecum, the lower part of ilium, and beginning of the ascending colon all of it well distended and markedly congested. The entire mass was adherent to the sac. He slowly separated all adhesions and lifted out the mass which was about the size of a fetal head. The appendix was not visible. The color of the sac was grayish and of a fibrous nature. Certain regions showed grayish-black points indicating old hemorrhage. The outer surface of the sac was blended by adhesions to the posterior and lower wall of the abdominal cavity. The hernia with its covering was immovable in its fixed position. Upon withdrawing the contained intestines the pouch tapered downward and inward to the right external ring. He closed the opening with catgut sutures and replaced the mass without doing anything. The abdominal wall was closed with separate layers after inserting a cigarette drain. The wound healed by primary union. The patient, however, developed ether pneumonia five hours after the operation and in spite of every effort to

save him he died on the 8th day. No autopsy was allowed.

#### BACILLUS AEROGENES CAPSULATUS INFECTION.

DR. E. A. PARKER reported the case of a man 40 years old who on March 26th, while working on a building was hit on the head by an iron beam and knocked to the ground, a beam falling on him. He sustaining a compound comminuted fracture of the orbital plate of left frontal bone; a compound comminuted fracture of right tibia and fibula, lower third, and small punctured wound of left forearm two inches below the elbow joint.

*Operation.*—Wound over skull fracture enlarged; several pieces of bone removed one of which was the external angular process of the frontal bone. Eye-ball being found dislocated downward was brought up into place. Closure with silkworm gut and no drainage. Wound in leg enlarged and all splintered bone removed. Tibia wired with silver wire. Closure with silkworm gut and no drainage.

March 29, 1908, wound of left forearm was found to be infected. Wet formalin dressing was applied by house surgeon. Dr. Geis saw this at 12 noon and found crepitation in tissue below wound and above to within one inch of elbow joint. Gas bubbles came out of wound on pressure. At 3 p. m. crepitation reached two inches above elbow. Operation was advised at once, but owing to some objections this was not done. At 6 p. m. crepitation reached to deltoid insertion.

*Operation.*—Drs. Parker and Geis. Incision into forearm showed deep involvement by gas bacillus. Free dark brown pus full of gas escaped; muscles were soft and mushy and tore on slight pressure. Circular amputation was done three inches down on humerus. Wound was left open and wet formalin dressing applied. Intravenous infusion was given in other forearm of one and a half drams of colloid silver. March 30th—another intravenous of same quantity was



given. June 9th, tibia necrosed and a portion was removed. July 3d, union in bones, but that night the patient suddenly jumped out of bed and union was destroyed. July 24th—under cocaine anesthesia a disarticulation of stump of humerus was done because of necrosis. January 7, 1909—Bones of right leg united. Skin broke down again last week over this union, but it is now in fair condition.

#### RUPTURE OF THE KIDNEY.

DR. E. A. PARKER stated that this patient, a boy aged 9, was knocked down by a wagon, and while lying on his back the wheel passed over his abdomen. He got up and walked four blocks to his home. He had no pain on admission to the hospital, but was slightly tender over the left kidney; temperature 99 1-5°, pulse 120, respiration 25; general condition good.

Three days later the boy was transferred to another part of the hospital. It was then noticed that there was rapidly progressive anemia, pulse increased to 140, temperature 99 4-5°, respiration 30; sighing breathing.

*Operation.*—Lumbar incision; kidney found ruptured, the lower third having but a slight attachment to the remainder of the organ. Mattress su-

tures of collargolum catgut were used. The incision was closed with crossed silkworm gut sutures, excepting a small space for the gauze drain leading to the kidney. The boy was discharged cured.

#### SPASMODIC TORTICOLLIS.

DR. E. A. PARKER said his patient, a man aged 44, was admitted to St. Mary's Hospital July 12, 1907. Eighteen years previously had an attack of rheumatism; two years ago nervous break down. Six months prior to admission head became turned slightly and twitched. These symptoms grew worse and he was operated on the right side of the neck at a New York hospital.

When admitted to St. Mary's, owing to the severe contractions of the sterno-mastoid and trapezius muscles, the patient was compelled to steady his head with his right hand.

He received tonic treatment and rest until August 6th, when, under cocaine anesthesia, 1-5 of 1 per cent. the spinal accessory was excised from near the mastoid tip to the trapezius. Primary union was obtained. The patient remained away from business and led an outdoor life for several months after the operation.



# TRANSACTIONS

## OF THE

# BROOKLYN PATHOLOGICAL SOCIETY

492d *Regular Meeting*, March 11, 1909.

Edited by C. G. CRANE, M.D.

The President, J. O. POLAK, in the chair.

---

### **SOME PECULIAR PNEUMOCOCCUS INFECTIONS.**

A paper with the above title was read before the Society by Joseph Merzbach, M.D.

Dr. S. R. BLATTEIS said that the eye presented was removed by Dr. Simmons at the Jewish Hospital. He took cultures from the eye as soon as it was removed, and there was no difficulty in developing the pneumococcus on the media usually employed. The interior of the eye is practically an abscess cavity, and a section examined histologically shows purulent infiltration of all the tissue.

About the case of which Dr. Merzbach spoke, numerous examinations of the sputa were made. At one time the pneumococcus was isolated, but more frequently a pneumococcus combined with a staphylococcus infection, occasionally the micrococcus tetragenus. Staining of the sputum for lung fibres showed them present in moderate amount, showing some destruction, though not marked, of lung tissue.

### **FOREIGN BODY REMOVED FROM THE INTESTINE.**

Dr. ROYALE H. FOWLER said that early in January there was admitted to the service of Dr. Robert Abbe at St. Luke's Hospital a boy, 20 years old, Italian, who gave a history of having swallowed a stick seven inches in length and the thickness of the thumb. There had been no vomiting. Upon examination of the boy, the abdomen showed no distention, but apparently in the ileo-cecal region was a mass corresponding with the foreign body,

which he stated he had swallowed, the end projecting prominently through the abdominal wall. It showed some shifting character. At one time it was palpated to the left of the umbilicus; that was just previous to the removal. Rectal examination showed a very much dilated sphincter, and upon digital examination a substance quite hard in character and corresponding to the end of the stick could be palpated. This body was removed by means of a sponge stick introduced through the anal orifice blunt end first.

It seems extremely unlikely that he could introduce it through his mouth. Probably the boy was a sodomist and had introduced it into the rectum.

### **EPITHELIOMA ASSOCIATED WITH THE TRICHINA SPIRALIS.**

Dr. ROYALE H. FOWLER said there was no particular importance to be attached to the association of the parasite with a new growth, it was merely a pathological curiosity. The epithelioma occurred on the buccal mucous membrane. A portion of the cheek was excised by Dr. Abbe, and examination showed a typical new growth, epitheliomatous in character, and in the buccinator muscle there were encapsulated trichinae. They were so encapsulated that even if a blood count had been made there would have been no eosinophilia, it was of such old standing.

### **TRAUMATIC RUPTURE OF KIDNEY.**

Dr. STEPHEN L. TAYLOR presented the specimen in this case and said that it was removed recently by Dr. Delatour from a young man who was



struck in the side by a plank as it was thrown from a circular saw. The case was of unusual interest because of the extensive laceration of the kidney, one tear passing through the substance of the kidney, and there were several very irregular tears. It was also of interest from the fact that he was in the hospital nine days without the development of severe or fatal hemorrhage. At the operation it was found that the capsule of the kidney was not ruptured and the blood clot was entirely within the capsule of the kidney. The operation was done on March 4th and the patient made a satisfactory recovery.

Dr. WALTER C. WOOD said this kidney certainly required removal; but on the other hand it was well worth saying that traumatic tears of the kidney have a tendency to repair that they are not credited with; and kidneys torn off, but not entirely loose, can be stitched back and live. The speaker thought the condition here justified removal, but the reparative power of the kidney is not generally understood.

Dr. J. D. SULLIVAN said this reminded him of a case he had a few years ago. A boy playing on the sidewalk fell on his side. When he saw him the boy did not have serious symptoms, dulness on percussion, and some blood in the urine. Every day he seemed to improve, although the tumor about the kidney appeared to grow gradually larger. He had intermittent bloody urine. His condition went on without bad symptoms for two weeks. The dulness extending, he cut down upon the mass and found a cystic kidney that was lacerated considerably. The tumor was made up largely of blood clot and urine. He removed the kidney and the boy made a rapid recovery. This kidney was evidently diseased before the boy fell.

#### LEUKEMIA A SYMPTOM NOT A DISEASE.

A paper with the above title was read before the society by Dr. Henry Goodwin Webster. It consists of an analysis of a suggestive case.

Dr. J. MERZBACH stated he had no doubt that Cabot's theory that leukemia is an expression of some infection is true, but he doubted if we could make a positive diagnosis and prognosis with our present knowledge. He had seen quite a number of all forms of leukemia, and he remembered, among others, a case in which a young woman had a very large spleen and liver, a few enlarged glands and a complete picture of a myelogenous leukemia, with very high temperatures. The prognosis given by eminent men was hopeless, and yet she recovered, and at present is in perfect health. The speaker said he stated this fact to show the great uncertainty of our knowledge in these cases.

He also remembered the case of a young woman who had fever, pain in the region of the spleen and some pain in the back. The blood examination showed, to his great surprise, quite a number of myelocytes. That patient recovered in three weeks, the myelocytes disappeared, and the patient is well now. He did not know what the condition of this patient was. The spleen was not enlarged but was tender. He could not make a diagnosis to-day. He found no analogous case in literature and did not know how to classify it.

The speaker stated that he had a peculiar experience—a patient with leukemia, with an immense spleen, reaching to Poupart's ligament. That patient was operated on by Dr. Paul Pilcher for vesical calculus, and lost an immense amount of blood during the operation. The spleen shrunk to one-quarter of its former size. Unfortunately the patient died from an attack of syncope. It was pretty difficult to explain, he said, the reasons for this marked reduction in the size of the spleen. The patient died ten days after operation.

The speaker thought the subject required an immense amount of study. So far the boundary line between pseudo-leukemia and true leukemia was arbitrary.



Dr. J. D. SULLIVAN said he had learned to look upon all these forms of anemia as a malnutrition, as a rule beginning with some toxemia. He was never able to benefit these cases much until he got some idea of the form of toxemia, and then if he could remove the toxic element in the blood the patient went on to recovery.

He did not take much stock in the different forms of myelogenous and lymphatic leukemia, and thought it difficult to differentiate between them. He thought leukemia is a disease produced by some toxic element in the blood, which interferes with its normal development and the proper performance of its function. In some cases the toxemia may be the result of a syphilitic infection, as in the case reported by the author of the paper. In others, malaria may be an etiological factor.

The toxemia of rheumatism, or an auto-intoxication originating in the alimentary canal, may act as causes of the disease.

#### THYROID LESIONS AND THE RELATION OF THE PARATHYROIDS IN THYROID SURGERY.

A paper with the above title was read before the society by Dr. Norman P. Geis.

Dr. WALTER C. WOOD said that what Dr. Geis had stated about the thyroid gland without question was perfectly true, but a goitre could be removed with great success if you do not see the parathyroids at all, and that is the basis of the excellent results obtained in exophthalmic goitre by Dr. Charles Mayo.

The Mayo plan of procedure in exophthalmic goitre is to try out the strength of such a patient by exercise to tell the exact strength of the heart. Having determined that and whether a case is operable or not, and finding that the case is operable, they put the patient to bed for a week or month, during which time they are given extract of belladonna and small amounts of quinine internally and the X-ray is used externally on the gland until a bronzing of the skin has been

reached. By this means they follow out the ideas that have been advocated for the cure of exophthalmic goitre by the X-ray. They claim the use of the X-ray lessens the vascularity and makes a definite and distinct improvement in the condition of the thyroid gland of the exophthalmic type, although they are convinced this improvement is only temporary. Then the patient is given 1-6 grain morphine and 1-120 atropine some twenty to thirty minutes preceding the anesthesia. This they use usually in their thyroid operations.

The patient is placed in the reversed Trendelenburg position, the whole body being especially high to get the effect of gravity. The collar incision, six to eight inches, is made. They make the incision through the platysma in the same line as through the skin. Having turned the platysma and skin in one flap upward as far as the head of the bone, they make a transverse section across the muscles in the region high up, so as to help the nerve supply. They then turn forward the gland and cut the superior and the inferior thyroid vessels on the side they intend to remove, and then they do what to his mind was the secret of their success in goitre operations—instead of going behind they make a transverse section beyond the gland without removing the posterior capsule. The parathyroid glands exist behind the capsule and around the capsule, and by leaving the capsule untouched and in the wound they avoid injury to a great extent of the parathyroids and also avoid injuring their blood supply. Then on dislocating the lobe of the gland they wish to remove, they make a section of the isthmus with a pressure clamp, cutting off the gland with the knife and stitching over the end with a running catgut suture. They then stitch the muscles in place and make a separate opening for drainage. They wipe out the field of operation with a solution so as to avoid an absorbing surface. In that way they think they avoid the dangers due to absorption of thyroid secretion after



the operation. Then they close the wound with two layers of continuous suture. The patient is put back to bed and giving saline by rectum. If any inflammatory process follows, wet dressings are applied for two or three days.

The proof of any surgical procedure is its success. Up to 1907, Charles Mayo had operated on some 300 goitres, including 110 exophthalmic with a death rate of 9 per cent. Last year he did 124 cases of exophthalmic goitre, losing only three. The speaker saw him remove an exophthalmic goitre from a patient kept in bed one year on account of the heart condition. They do operations of that type in a way most of us would hesitate to do.

There is one other point they think important. In the ligation of the superior thyroid they are careful not to include any cellular tissue, because the contraction of this vessel has led to secondary hemorrhage by loosening of the ligature.

With a death rate of less than 3 per cent. in exophthalmic cases, and a death rate of  $1\frac{1}{2}$  per cent. in the ordinary simple hypertrophy, they have established their method of operating without a doubt. The speaker believed their success was in leaving the posterior capsule of the gland in the wound.

It might be interesting to say that the pathologist there has made a report of 294 sections of thyroid tissue of the exophthalmic type of the disease, and has been able, in over 80 per cent. of the cases from the pathological specimens alone, to describe the stage and location of the symptoms from a clinical standpoint, and in 17 per cent. of the cases there were some discrepancies that could be explained by the two types of history,

the clinical history and pathological report, while in some 6 per cent. of the cases they were entirely at variance. It shows the accuracy with which the pathologist has been able to explain the clinical symptoms with regard to this condition.

Dr. ARTHUR C. BRUSH said that clinically we always meet with doubts. He remembered a case of tetany which had been operated on by Dr. Fowler. The woman was admitted to the County Hospital and had been fed on thyroid extract for some months. She improved and was discharged cured. For four years that woman came in almost every March and always improved on thyroid extract. She died in the last attack. If tetany is due to the destruction of the parathyroids, the thyroid extract they used must have contained some extract of the parathyroids.

In a case of tetany in the hospital, a little girl they fed entirely on the parathyroid extract as supplied by the manufacturers, without the slightest improvement.

Whether an operation is necessary always in exophthalmic goitre he doubted much, because he had seen many cases cured and disappear. Ergot he had found of no use. In many cases of exophthalmic goitre we find little enlargement or disturbance of the glands, the eye symptoms and the heart is nearly the whole story.

Dr. NORMAN P. GEIS said it is far safer to leave the whole capsule, the posterior part can always be left and it is a safer operation. The capsule is cut antero-posteriorly and then laterally.

He was only speaking of post-operative tetany, not the tetany you get medically.



# LONG ISLAND MEDICAL JOURNAL

VOL. III

SEPTEMBER, 1909

No. 9

## THE PATHOLOGY AND ETIOLOGY OF ARTERIO-SCLEROSIS.

By ARCHIBALD MURRAY, M.D.

ARTERIOSCLEROSIS may be defined as a local or general thickening of the arterial wall, with loss of elasticity, occasioned mainly by overgrowth of the tunica intima, secondary and proportional to weakening of the muscular and elastic elements of the media.<sup>1</sup> A good deal of confusion exists in regard to the exact meaning of the term arteriosclerosis—some mean atheroma, others mean degeneration, while others mean a combination of all three conditions. When arteriosclerosis affects the aorta and its large branches it is called atheroma by some writers and by others they are considered as two totally distinct pathological conditions.

The German school make atheroma and arterio-capillary fibrosis parts of arteriosclerosis, while the French believe that the arteriole change is distinct from that lesion involving large trunks or relatively large branches and called by various names such as atheroma, nodular arteritis and arteritis deformans. Letulle says, chronic arteritis affecting the aorta is atheroma; when it involves the arterioles it is arteriosclerosis. Russell insists that atheroma is a distinct form, though it may be coincident with changes involving the arterioles. In any case, the pathological findings are certainly distinct in each of the lesions and some distinction should be made between them.

Atheroma<sup>2</sup> presents itself as a patchy, localized, fibroplastic infiltration of the intima. Raised yellow

spots or patches are seen, located on one side of an artery and these spots are prone to undergo necrotic and calcareous changes. Atheroma affects chiefly the aorta and the larger arteries of the trunk and brain. It may be of very limited extent and is often met with at the bifurcation of vessels even in quite healthy subjects. Arteriosclerosis presents itself as a fibrous thickening of the intima with little if any tendency to necrosis. Raised patches are not seen but the intima is more or less uniformly thickened and over a considerable length of the vessel. The color is not altered. Arteriosclerosis may affect arteries of any size but it is relatively more common in the medium and smaller vessels and usually affects a considerable vascular area. Atheroma is generally looked upon as a degenerative process, while arteriosclerosis is considered as of inflammatory origin.

As to classification, Allbutt suggests three classes of arteriosclerosis.

1. The involuntary—common to old people, often hereditary and not necessarily or usually associated with rise of arterial pressure.

2. The mechanical—the result of long-persisting high blood-pressure of whatsoever origin.

3. The toxic—due to such causes as lead, alcohol or syphilis, usually met with in younger people, in some of whom pressure rises, in others not.

Another classification suggested by Councilman<sup>3</sup> is based practically on the pathological findings.



1. Senile.
2. Circumscribed or nodular.
3. Diffuse.

1. The senile form is associated with atrophy of the liver and kidneys and the heart is often small.

2. The circumscribed or nodular form begins by the formation of semi-transparent, gelatinous plaques scattered about the walls of the aorta and large vessels. When the process is further advanced the patches are found to be firm, dense and of a cartilaginous consistence. Fatty degeneration, softening and breaking down may occur, forming the so-called atheromatous ulcer.

In other cases calcification takes place and hard, brittle plates are formed. All three coats of the vessel are more or less affected. The intima is seen to be increased in thickness in places and to bulge inwards owing to the great increase in the sub-endothelial layer, the cells of which have undergone proliferation. In spite of this bulging, the endothelial lining itself generally remains intact until the process is very far advanced.

The fusiform or stellate cells constituting the hyperplasia are at first well defined, but eventually the deeper ones undergo hyaline and fatty degeneration and finally necrosis. The media shows a distinct loss of tissue at points corresponding to the hyperplasia in the intima. The remaining muscle fibres are the seat of hyaline and fatty degeneration. The adventitia generally shows some hyperplasia of the fibrous elements and a cellular infiltration.

The changes in the elastic tissue I shall speak of under the pathogenesis of the disease. Mott believes that the nodular distribution of the disease is due to a thickening or obliteration of the vasa vasorum, leading to interference with nutrition and consequent degenerative changes in the parts of the media corresponding to the distribution of the diseased nutrient vessel, with the secondary compensatory fibrosis in the underlying intima.

Thoma has shown that the patches do not form projecting buttons during

life as they appear post-mortem, but merely fill up the weakened spaces in the media.

3. The diffuse form occurs in middle-aged men, and is frequently associated with hypertrophied heart and vascular nephritis.

The disease is widely spread throughout the aorta and systemic vessels. The coronaries are generally involved and the heart shows interstitial myocarditis and fatty or other degenerative changes. This form of the disease corresponds to the cases described by Gull and Sutton as arterio-capillary fibrosis. It is often associated with the nodular form in the large arteries.

Microscopically, the changes are similar to those observed in the nodular form.

Before taking up the subject of pathogenesis I wish to call your attention to the importance of the tunica media or muscular coat. This forms the thickest coat of all the arteries and arterioles of the body, only excepting arteries of quite the largest size in which very little muscular tissue is found.

In the arteries and arterioles it forms about half the thickness or more of the vessel wall, and constitutes the functionally active part of the entire arterial system. The importance of the endothelial lining of the intima is recognized, but, the intima is only a limiting membrane and the adventitia is simply a supporting structure of connective tissue, while the media, by exercise of its functions, controls the circulation as a whole as well as the quantity of blood in this or that area or organ.<sup>2</sup>

It is also to be noted that the intima contains no blood supply of its own, and this want of a direct blood supply, while it renders it less liable to acute inflammation, makes it more prone to degenerative changes of a low, chronic inflammatory character.

In regard to the pathogenesis of arteriosclerosis Marchand<sup>4</sup> believes the essential factor in all cases to be a mechanical one, viz., an over-filling,



or temporary or permanent increase of the arterial pressure, which may be due to local injuries or to general processes in the form of intoxications, general nutritional disturbances or similar factors. The primary change in the vessel walls in all these cases is in the elastic coat and consists in a weakening of this. The later changes of a degenerative and sclerotic nature are essentially secondary and compensatory in character.

Barr<sup>5</sup> regards the early changes in the intima as depending upon disturbances in nutrition. As mentioned in the early part of the paper, the intima has no direct blood supply of its own, but is nourished by the vasa vasorum in the outer and middle coats. This takes place in great part during the vessel's repose—that is, between the pulsations, when the vessel is lax and not stretched. This period may be broadly stated as occupying an equal time to that of distension; but when you get high arterial tension, there is no proper period of relaxation, but merely periods of greater or less distension. This constant straining soon leads to malnutrition of the inner coat, a chronic irritation or inflammation, which gives rise to hyperplasia of the cell elements of the sub-endothelial layer.

Thoma's<sup>6</sup> theory is probably the most widely accepted to-day. He regards the disease as a morbid process involving the whole vascular system—arteries, veins and capillaries—to designate which, he proposes the term angiosclerosis. According to him, the primary change in the development of the disease is a weakening of the muscular and elastic tissue of the media of the vessels, due to the action upon them of certain general conditions, with consequent yielding of the vessel wall to the pressure of the blood. As the amount of blood passing through an artery in a given time is determined among other things by the condition of the capillaries, and as these are dilated to a lesser extent than the arteries, the widening of the latter produces only a moderate increase in

the amount of blood which passes through them, consequently the rapidity of the blood stream is lessened. The slowing of the blood-stream is followed by an increase of connective tissue in the intima of the vessels so as to strengthen their walls, narrow their lumina and thus attempt to restore the normal relation between the calibre of the vessels and their contents. The sequence of events in the development of arteriosclerosis is therefore—

1. A weakening of the media.
2. Dilatation of the vessel and slowing of the blood-stream.
3. A compensatory sclerosis of the intima.

The relaxation of the vessel wall is to be regarded as depending upon what might be termed muscle-fatigue, incident to the maintenance of continuous tension.

If, therefore, we accept Thoma's teaching, we must regard the thickening of the intima as a compensatory process and not the result of inflammation.

Thoma refers to the loss of elasticity in the vessels, but lays no stress upon alterations in the elastica, and it is in this structure that many investigators now think they find the initial alterations upon which all the changes in question must depend.

Now, if as held by Thoma, the proliferation of the intima is in response to lessened pressure, then we should expect it to be uniform and not eccentric as commonly observed. The same holds good if the proliferative changes in the intima depend upon the presence of an intra-vascular irritant. But, as is well known, vessels showing the earliest stages of the sclerosis, commonly manifest it only in a part of their wall. Assymetry in distribution is one of the most constant features of the changes, both early and late. Opinions differ as to the actual changes taking place in the elastica. Swelling, rupture, splitting, fatty, hyaline and calcareous degeneration have all been described.

Fragmentation, swelling, separation and curling of the fragmented ends



constitute the most common early alterations. In the relatively early stages, the media external to the elastic layer is the seat of no discernable lesion, but just inside the elastic membrane there is always more or less alteration. This part of the intima is thickened and reticulated, containing a varying number of round or slightly elongated cells, between which the delicate fibrils of the reticulum are dispersed. In the later stages, within this newly-formed fibrous tissue, a varying number of new elastic fibrils can be seen.

The media, which in the earlier stages appeared normal or possibly broader than normal, now seems thinned, often irregularly so, and beneath the areas of fragmented and dissociated elastic fibrils, a varying degree of mono-nuclear infiltration can usually be seen.

This condition would seem to indicate that the elastica has yielded before the inflammatory process, which, in a sense has extended to the middle coat. The media appears to have given way as a result of the extension of the process and the accompanying cell accumulations are apparently reparative in nature. New fibrous tissue is in course of production and with this, a varying quantity of evidently young elastica. In the more advanced lesions, as affecting the smaller arteries, the dissociation and fragmentation of the elastica with advanced atrophy of the media, are most pronounced. The whole process seems to point to a lesion primary in the elastica and characterized by imperfectly evolved efforts at repair. Such efforts are partly in the direction of regeneration of the elastic tissue and probably to a greater degree, a fibrous substitution for a more highly constituted tissue. In other words, nature can produce fibrous tissue in the intima much more easily than muscle fibres in the media.

Among the etiologic factors in the causation of arteriosclerosis we find old age and heredity, heavy work, abuse of alcohol and tobacco, over-feeding, infectious diseases, lead poi-

soning and gout, continued anxiety and exhausting mental exercise, sudden shocks or emotional stress. Some of these I shall now consider more at length.

As regards age, the disease is more common in patients over 50. Changes incident to old age naturally cause degenerative changes in arteries, but the condition is by no means restricted to the aged.

Calcifying aortitis has been seen in a girl 5 years of age. Atheroma in the arch of the aorta in a boy of 2 years of age. Sclerotic arterial changes in an infant of 15 months. Universal calcification of the arteries in a boy of 3 years. Many other similar cases might be quoted.

In regard to sex—arteriosclerosis is much more common in men under 50 than in women, but after the climacteric period, it is as common in women as in men. Owing to their occupation, men are much more subject to the disease as a rule than women, but, when women are placed under the same conditions they are as liable to arterial degeneration as men.

As to the relative frequency of involvement of different parts of the arterial system, Rokitansky places first the ascending portion of the arch, then the abdominal and thoracic portions of the aorta. Next in order follow the splenic, femoral, internal iliac, coronaries, cerebral, uterine, brachia and subclavian.

The mesenteric, gastric and hepatic arteries are seldom affected, even to a slight degree. Sclerosis is also rare in the pulmonary artery and its branches and when present is usually associated with long-continued mitral stenosis, emphysema or other conditions with consequent high pressure in the pulmonary system.

#### *Muscular Strain.*

It is well known that occupations involving continuous muscular exertion, tend to cause degeneration of the large arteries. Porters, laborers, blacksmiths, etc., are often the subjects of the disease early in life.

As regards over-exertion in ath-



letics, it has been said that in these cases which have overtaxed their heart and vessels, that, barring infections and accidents, death generally comes through arteriosclerosis. Excessive and ill-directed physical exertion can certainly lay the foundation for cardio-vascular disease that may perhaps be dormant in the more active period of life, but becomes pronounced when the power of compensation begins to grow feebler with advancing years.

*The Relation of Acute Infections to Arteriosclerosis.*

Thayer and Brush<sup>7</sup> examined months and years after their infection 189 individuals who had passed through typhoid under their observation. It was found that among these individuals—

1. The radial arteries were palpable in a surprisingly large proportion of cases as compared with control observations on healthy men and women who had never had typhoid.

Between the ages of 10 and 50, 48.3 per cent. of the old typhoids showed palpable radials as compared with 17.5 per cent. among ordinary individuals. These proportions held in every decade and were not essentially modified in tables from which all giving a history of severe infection or alcoholic habits had been excluded.

2. The average systolic blood-pressure was materially higher in every decade among the old typhoids than in control observations on healthy individuals who had not had typhoid.

3. The average size of the heart was larger among the old typhoids when considered in groups according to age, than in figures obtained from examination of the typhoid patients at the time of admission to the hospital.

The writers were further impressed by the frequency with which early endarteritic plaques were found in the aorta and coronary arteries of patients dying of typhoid fever. Out of 95 autopsies, notes were made on the condition of the aorta in 52. In 30 of these, sclerotic changes were observed. These were described as

“fresh” in at least 21 instances. In 62 cases the condition of the coronaries was noted. In 19 of these definite sclerotic changes were described.

These figures would tend to support the view that typhoid fever must be regarded as a factor in the production of arteriosclerosis.

The role of infectious diseases in the production of acute arteritis in medium sized and smaller vessels is undoubted, but their influence on the development of the more chronic changes which are included under the term arteriosclerosis has been and still is a disputed question.

The findings in these cases led the writers to continue their investigations regarding the relation between arteriosclerosis and certain other infectious diseases, alcohol and heavy work.

The figures are based on the palpability of the radial arteries, but it is well recognized that this lesion alone may bear little relation to the existence of sclerotic changes in other vessels, and again, it is common enough to find grave changes in the aorta, coronary arteries and other vessels, with perfectly soft radials. Notwithstanding these considerations, it was thought that the proportion of palpable radials associated with arteriosclerotic changes elsewhere was large enough to give a certain value to the following observations:

Out of 3,894 patients admitted to the Johns Hopkins Hospital the radial arteries were described as palpable in 1,860 instances, or 47.7 per cent. No case over 50 years of age was considered. These cases were separated into groups in which a history was obtained of diphtheria, scarlet fever, malarial fever, typhoid fever, pneumonia, rheumatism, syphilis, gonorrhœa, alcohol and heavy work.

Another group consisted of those cases presenting none of these causal factors. When these cases were tabulated, the curves of the chart were found to fall into three main groups.

The first or highest group consists of heavy work, alcohol and syphilis. The second group consists of the re-



maintaining acute infections; rheumatism, typhoid fever and malarial fever being at the head of this group. The third group or lowest, consists of those cases where no causal factor was present.

If another chart is made so as to include only those cases where a single one of these factors was present, the result is as follows:

By far the highest percentage of palpable radials was found among the cases with a history of heavy work (57.6 per cent.). Next to this come the figures for the patients who gave only a history of alcohol (46.8 per cent.). Among the acute infections, rheumatism leads with 34.6 per cent., typhoid second, with 26.3 per cent. and the other infections occupying a subordinate position. The average for all the cases giving a history of acute infections *alone* was 24.3 per cent., as compared with 57.6 per cent. for heavy work and 46.8 per cent. for alcohol.

Many other investigators admit that the change recognized as acute arteritis occurring in typhoid, scarlet fever, variola, influenza and other acute infectious diseases may constitute the basis upon which the more general arteriosclerosis can be implanted, often not becoming evident until months or possibly years after the infectious process to which it was due has passed away.

#### *The Relation of Alcohol to Arteriosclerosis.*

Alcohol has been so universally accepted as one of the principal factors in the causation of the disease that I shall quote some figures from Cabot<sup>8</sup> which tend to disprove to some extent that idea.

He first investigated the question: How many cases of arteriosclerosis not referable to syphilis or advancing age are to be found among alcoholics?

At a State farm and an asylum for dipsomaniacs, 283 cases of the severest and most chronic forms of alcoholism were investigated. Syphilitics and cases over 50 years of age were excluded. Of the total 283 cases only

18 or 6 per cent. showed arteriosclerosis. If the cases over 40 years of age be excluded the percentage drops to 1.4 per cent.

He next endeavored to determine in what proportion of cases of relatively early arteriosclerosis of the peripheral arteries alcoholism was present. Out of several hundred cases seen at the Massachusetts General Hospital, 45 were under 50 years of age and only 6 of these or 13 per cent. gave any history of alcoholism. The records of 656 autopsies were examined and excluding syphilitics and cases over 50 years of age 95 showed arteriosclerosis. Of these 95 cases, 57 or 60 per cent. used no alcohol; the remaining cases used alcohol in varying amounts.

He also cites the case of a young man who drank himself to death at the age of 36. For ten years he had been in the habit of taking from one to two quarts of whiskey daily for about eight months in the year. At the autopsy his arteries were found to be perfectly normal. These figures are interesting, but they have been criticised as dealing almost entirely with a single class—men who have worked with their muscles out of doors, and have not lead lives of intellectual or mental strain—the very class which alcohol affects the least. Then again, the lesions in other organs progress much more rapidly than they do in the arteries and often determine a fatal issue before the arteriosclerosis is well established.

#### *The Relation of Lead to Arteriosclerosis.*

Experiments with lead seem to show that it first exerts a destructive action on parenchymatous tissues, producing cloudy swelling, fatty degeneration, vacuolization, granular atrophy and hyaline degeneration. Secondly on the blood and blood vessels, and finally a sclerosing action. This applies to all organs, but is most pronounced in the kidney. Other observers have found the vascular changes most marked in the pulmonary circuit. Attention has been called



to the fact that there is no general arteriosclerosis in the cases of nephritis due to lead poisoning. The arteries of the kidney are thickened by hypertrophy of the media, while the intima is only at times the seat of hyperplasia. Some think that the lead has a direct action on the vessel wall, while others believe that in the kidney for instance, the primary effect of the lead is to cause degeneration of the epithelium of the tubules; the glomeruli then become involved and sclerosis ultimately occurs.

In the blood the findings are those of a secondary anemia, the severity of which varies in proportion to the length of the disorder. Various writers have noted a leucocytosis during the colic. The most peculiar finding is that of basophilic granulations in the red cells. These are present even when the anemia and other symptoms are of a mild type or are absent altogether. The granules disappear from the blood when the cause is removed.

In a guinea-pig which had received during one month a daily dose of 50 cgms. of lead carbonate, there was found at autopsy marked arteriosclerosis and adrenals nearly double the normal size. Vaquez<sup>10</sup> suggests that in lead poisoning there may be an adrenal irritation which is responsible for the change in tension and the tendency to arteriosclerosis. The same writer found the arterial pressure unusually high during the attacks of colic. It does not subside to normal during the intervals but persists as long as the colic lasts. He considers this persistence of hypertension remarkable, as hypertension due to vaso-constriction was always supposed to be more briefly transient. The hypertension does not commence to subside until after the bowels move and then it gradually drops. The intensity and rapidity of these variations is a feature of lead poisoning. The vaso-contractile action of the poison is first limited to the splachnic region, and it here induces the intestinal spasm and the colic.

### *The Relation of Syphilis to Arteriosclerosis.*

Syphilitic and ordinary arteriosclerosis differ considerably. In the aorta for instance, ordinary arteriosclerosis begins with a round-cell infiltration in several parts of the intima, proliferation of connective tissue and the new formation of elastic fibres. It leads to cloudiness, fatty degeneration and calcification of the intima and media. Later on, inflammatory changes may take place in the adventitia.

On the other hand, arteriosclerosis, due to syphilis, begins more from the side of the adventitia, and always along the vasa vasorum. This gives rise to a strictly circumscribed pathological process, starting with the formation of small gummata. These are situated generally in the outer layers of the media. They soon interrupt the elastic tissue and weaken the elastic layers, especially the external. Later, the internal layer is affected. Cicatrices form and in places the media may almost disappear. The intima at times comes in direct contact with the adventitia, to which it adheres by means of sclerotic cicatrizing tissue. The changes in the intima are purely of a secondary nature and consist of sclerosis and fatty degeneration, but rarely ulceration.

A word must be said in regard to certain experiments made with adrenaline. Josué<sup>11</sup> injected three drops of a 1-1,000 solution of adrenaline into a rabbit's ear. In three months the rabbit received 20 injections and at the autopsy spots of atheroma were seen in the aorta and also calcareous plates. Other animals treated in the same manner showed the same findings and the hearts were greatly increased in volume in all the cases. These atheromatous spots correspond exactly to those found in the human subject. No trace of arteriosclerosis was found in connection with the atheroma and Josué thinks that they are distinct lesions, in spite of their frequent co-existence. Certain writers go so far as to suggest that arteriosclerosis is always of adrenal origin,



and that toxic substances which were supposed to produce vascular lesions *directly*, do so rather by their *indirect* action on the adrenals, which they stimulate and cause to hypertrophy.

There is a difference of opinion as to how adrenalin acts. Elliot of Cambridge concludes from his experiments that it acts only through the sympathetic nervous system, while Barr believes it also has a direct effect on the unstriated muscular fibre of the vessel wall, since it will blanch fresh granulation tissue, where there is no sympathetic nerve and perhaps no larger blood-vessels than newly-formed capillaries. In the case of the rabbit, it is possible that the long-continued contraction produced by the injections of adrenalin, led to disturbances of nutrition in the intima, followed by proliferation and degeneration, as explained by Barr in the early part of this paper.

Later investigations have shown that the lesions were usually limited to the aorta, that only rabbits were found to be very susceptible to such injections and that many rabbits not experimented upon showed similar lesions. These findings have introduced a great element of uncertainty into the results obtained.

In conclusion, we are obliged to say, that if a specific cause exists for arteriosclerosis, it is as yet unknown. Most writers admit that the most important underlying cause is the functional strain upon the arteries. Welch asks the question—what are the conditions associated with arteriosclerosis which are responsible for the rise of arterial pressure and for the cardiac

hypertrophy? He thinks that the rise of blood pressure is due to causes which lead to arteriosclerosis, but the arteriosclerosis is not caused *directly* by the increased blood pressure.

The subject is very complex and, owing to the time limit it has been impossible to take up the effects of arteriosclerosis upon special organs, such as the brain, kidney, uterus, etc. In a general way it might be said that the blood and blood-vessels are the same throughout the entire body, and the different effects produced by the disease on different organs are due to differences in the character of the circulation and to the peculiar structure and function of the organ in question.

#### BIBLIOGRAPHY.

1. Mott. Arteriosclerosis. *Allbutt's System of Medicine*. Vol. 7.
2. Savill. Arteriosclerosis. *Lancet*. Sept. 24, 1904.
3. Councilman. Transactions of Association of American Physicians. Vol 6.
4. Marchand. *Münchener Med. Woch.* Nos. 17 and 18, 1904.
5. Barr. Arteriosclerosis. *British Med. Jour.* Jan. 14, 1905.
6. Anderson. The etiology and pathology of arteriosclerosis. *American Medicine*, March 12, 1904.
7. Thayer and Brush. The relation of acute infections to arteriosclerosis. *Jour. Am. Med. Assoc.* Sept. 10, 1904.
8. Cabot. The relation of alcohol to arteriosclerosis. *Jour. Am. Med. Assoc.* Sept. 17, 1904.
9. Billings. Arteriosclerosis due to lead. *Jour. Am. Med. Assoc.* Sept. 14, 1904.
10. Vaquez. *La Semaine Medicale*. Vol. 24, No. 48.
11. Josue. *La Presse Medicale*. Nov 18, 1903.



# SYMPTOMS AND PHYSICAL SIGNS OF ARTERIO-SCLEROSIS.\*

By RAYMOND CLARK, M.D.

BROOKLYN-NEW YORK

THE vascular system has from the earliest of time attracted the attention of the clinician, and of more recent date, the physiologist and pathologist.

One familiar with the literature on the subject of arteriosclerosis is immediately impressed with the fact that there is much confusion as to just what should be included under this term. Lobstein in 1835 was probably the first to use the term, arteriosclerosis, but he had a very different meaning to the term than the authorities to-day. He, as well as many others, included practically all the various pathologic conditions that produced a hardening of the arterial wall.

This paper is not to cover the details of the pros and cons as to what shall and shall not be included under arteriosclerosis, for the pathologist, Dr. Murray, has already made the subject clear and it is my object to give you a clinical picture of the disease.

There are a number of facts that have been worked out by the "Research worker" during the last decade that will aid us greatly to understand the many complex symptoms and physical signs in our study of this disease clinically.

The purely mechanical view of the circulation has had its day, and at present we must think of the blood vessels as living tubes, contracting and relaxing as does the heart, and under a control from a nervous mechanism and influenced by direct stimulation of substances in the circulating blood. The arteries are a very important part of the propelling power of the circulation. For we recognize from disease if this elasticity of the blood vessels be markedly diminished grave conditions develop. Dickinson in the Baillie lectures makes the statement

that even the capillaries which have no muscular coat contract as well as the arterioles.

The condition of the arteries is as important a factor in the nourishment of the tissues which they supply as the blood within these vessels, hence when the blood vessels are defective the various organs supplied become diseased from a lack of a proper quantity of blood. As Eichberg says: "A diseased vessel means a diseased action of an organ which will later show organic changes if the diseased arteries are not rectified."

We recognize to-day, thanks to the research physiologist, an earlier period in the development of many pathologic conditions than was recognized by our forefathers. As in arteriosclerosis we find that the most important period in the development of this disease is before pathologic changes take place; for it is in this early stage that the condition is curable and the patient averted from falling a victim to a steady progressive malady. The latest authorities for this statement as regards arteriosclerosis are William Russell, M.D., of Edinburgh, and Alfred Stengel of Philadelphia, who as early as 1904 made a strong plea for an early diagnosis of arteriosclerosis before perceptible pathologic changes were palpable in the blood vessels. These altered physiological conditions, due either to an overacting tissue or toxic substances circulating in the blood, are the forerunners of pathologic processes. This fact only until recently recognized, is of utmost importance as you will appreciate after I have drawn your attention to the course of the disease. We all realize how excessive muscular exercise, associated with nervous strain particularly, is an etiological factor; also toxic substances circulating in the blood from either chronic

\* Read before the Kings County Medical Society, March, 1909.



lead poisoning, typhoid fever, la grippe and toxæmias from defective metabolism, especially retention of nitrogenous waste products, either due to an inactive kidney, intestinal tract or skin, produce grave cardiovascular disease.

We must certainly be cognizant of the toxic substances or "muscular irritants," as Hunchard calls them, which excite the muscular tissue of the blood vessels, or we will not be capable of making a diagnosis in the earliest stage of arteriosclerosis. It is unfortunate that many of these cases do not consult the physician until well marked pathologic changes have taken place. They travel around for years many of them unconscious of the disease that is making inroads upon their organs, suffering from all sorts of nervous and functional disturbances.

Arteriosclerosis as defined in Albutt's system of medicine is "a local or general thickening of the arterial wall with loss of elasticity, occasioned mainly by fibrous overgrowth of the tunica intima, secondary and proportional to weakening of the muscular and elastic elements of the media." This might well be modified by the statement of one of the more recent authorities, William Russell, to include especially clinically, all the diffuse permanent thickenings which are not due to atheromatous degeneration.

Gull and Sutton pointed out that arteriosclerosis was a general vascular disease, but that it was prone to advance more rapidly in one organ or set of vessels than in another. This asymmetrical progress is probably due to some hereditary weakness on the part of the individual or to the peculiar etiological factor. This has within the last few years been corroborated by observations made by Alfred Stengel.

There is one set of cases in which the etiological factor is syphilis, where all the authorities agree, must be considered separately, for this is a class by itself and will be soon considered.

Now that we have a definite idea as to what we mean by arterio-

sclerosis we are in a position to classify the symptoms and physical signs. In the clinical study of these cases we find the same semeiology varies with the progress of the disease.

In considering the semeiology, we include symptoms and physical signs of arteriosclerosis. Naturally they seem to fall into three distinct groups according to the progress of the disease.

First group, includes the period of invasion, or the time when toxic substances, "muscular excitants" as they are called, are in the circulating blood; these in turn cause a hypertonus of the muscular coat of the arteries, with few if any pathologic changes in the vessel wall.

Second group, the period of well marked connective tissue hyperplasia of the intima with weakening of the media, and a tendency to become more advanced in certain organs or vessels than others according to the etiological factor and heredity.

Third group, the period of advanced permanent connective tissue, thickening of the vessel wall with marked nutritional disturbances and organic disease of the tissues most affected.

#### FIRST GROUP.

This stage is what Hunchard, Traube and later Stengel, call the prodromal or curable stage. It is, as has been pointed out, a stage of toxæmia plus an unusual nervo-muscular strain. The former causing a hypertonus of the arterio-capillary system, this causes an increased peripheral resistance, and in turn increased work for the heart. But, bear in mind no pathologic connective tissue changes in the wall of the blood vessels as yet. The ability on the part of the physician to recognize this early curable stage taxes his ingenuity and skill to the utmost in nearly every case.

The subjective symptoms which manifest themselves during the early stage are many and complex. Among the most important the following may be cited: Loss of usual vigor, especially upon rising in the morning, indisposition to work, others speak of it



as lowered vitality, or a sense of muscular exhaustion, slight dyspnoea without apparent cause, likewise headache, drowsiness, neuralgia or the so-called rheumatic pains in joints or extremities, lumbar pains of dull aching character, coldness of the skin, inability to stand well cold baths, sweating easily without apparent cause, irregular nocturnal polyuria. *Postural vertigo* is an extremely constant symptom, palpitation and faintness, now and then slight visual disturbances will be among the first that they complain of; quite frequently we have persistent gastro-intestinal disturbances without any definite cause, even after the physician has made repeated attempts to locate the trouble.

These digestive disturbances are accounted for by the fact that as the muscular excitants in circulating blood contract the periphery and thereby throw more blood back upon the heart, nature relieves this back pressure by allowing the surplus blood to flow into the splanchnic vessels thus causing an internal congestion at this area until the peripheral vessels again dilate and the blood returns through the normal channels. When this occurs frequently as in arteriosclerosis, we are constantly dealing with congested splanchnic vessels.

Insomnia must not be overlooked. One could enumerate almost an endless number, but the above symptoms associated with the following physical signs suggest quite strongly to the medical mind that he has to deal with a case of early arteriosclerosis.

The objective symptoms or physical signs are likewise numerous and complex, but of greater value than the subjective.

*Inspection* shows these patients to be of two distinct types, either the thin, poorly nourished individual, with a high pitched, easily unbalanced nervous system (neurotic type), or the reverse, a patient well fleshed, hearty eater, and of a fairly even temperament. These two extremes, however, progress along quite different lines. Small dilated capillaries may be seen in various parts of the skin, espe-

cially along the attachment of the diaphragm in front, at angle of alar nasi, and outer portions of thighs, also early beginning arcus senilis.

There is a general pallor to the skin, which at first glance might be mistaken for true anæmia, but it is in reality due to contraction of the peripheral vessels by irritation of the vaso-constrictors, the pallor more noticeable about the head, and especially around the mouth and over the nose and extending to the temples.

The apex beat is oftentimes seen more forcible against the chest wall, especially in those of the emaciated type. The skin is apt to be dry, sweating will often be started up even at the exertion of removing the clothing. The temporal arteries are apt to show slight increased tortuosity and fullness on slight exertion.

*The heart* shows slight increase in cardiac dullness, downward and outward; in other words, left ventricular hypertrophy; more marked as the patient approaches the second stage of the disease. The first sound at apex is often *lengthened* and gives the examiner the impression that the organ is laboring more than usual. The second sound at the base over the aortic area is early accentuated and remains so quite continuously. The rhythm is easily influenced by external causes, the arrhythmia is either physical or psychical. These same trivial external influences likewise produce tachycardia. The force of each beat is quite apt to be variable. Transitory murmurs may make their appearance but disappear as conditions improve or become permanent as the disease advances.

*The digestive tract* shows few physical signs other than coated tongue and evidence of constipation and obstipation. The liver is oftentimes tender to palpation.

*The kidneys* are extremely important, as we find that many cases of arteriosclerosis are clearly associated with renal disease. The quantity of urine in successive 24 hours, will vary considerably, 20 to 40 ounces; during the period of slackened



secretion many toxic substances are retained in the blood which undoubtedly act on the muscular coat of the artery causing a hypertonus. The specific gravity likewise varies in proportion to the total daily elimination. Rarely do we find casts but cylinderoids quite frequent, the meaning of these I have never been able to find out.

*The peripheral vessels.*—It is the palpation, or tactus eruditus, of the peripheral vessels which I believe gives us one of the most important and conclusive clues to this disease. As Russell states, it is a clinical guide, for the hypertonus of these vessels, or "the tightening up indicates the presence of deleterious substances in the blood; they relax as they are removed."

The palpating finger reveals two important factors. The state of the circulation within the vessel, and the condition of the vessel wall, these must certainly be differentiated. The condition of the arterial wall when in a state of pure hypertonus or muscular spasm without additional connective tissue in intima, is a vessel (radial, brachial, femoral, popliteal, post tibial *smaller* than normal, has a firm elastic feel with wall relatively thick, pulse not as easily obliterated as normal, and the real blood pressure may be either low or a trifle raised.

The examination of the vessels of right or left side, upper or lower extremity, will often show different degrees of hypertonus according to the etiological factor.

The sphygmograph gives us a fairly consistent picture. The upstroke or anacrotic limb is less in height and gradual. This is due to the longer period of contraction of the left ventricle. The apex is a trifle rounded or blunt and the predicrotic notch or tidal wave prominent. The downstroke is retarded somewhat, this is caused likewise by lessened elasticity of the artery wall.

The hæmomanometer readings in these cases vary from below normal 120 mm Hg. to 200 mm Hg. systolic. The normal being considered at

135 mm Hg. When, as Russell says, these muscular excitants are removed from the general circulation the readings return to normal. The fact of the vessel returning to normal readings after treatment is proof positive that the blood vessel contains no excess of connective tissue; sclerosed vessels never show normal readings.

*The Ophthalmoscopic examination.*—This should never be neglected in persons suspected of having beginning arteriosclerosis. In fact it is the oculist who oftentimes sees these patients first, for they go to him complaining of some visual disturbance, and it is he who actually gives us the clue to the situation. The retinal vessels are often seen partially strangulated, and the veins often constricted where they pass over the hypertonic artery.

Now that we have considered the semeiology during the incipient period we must turn our attention to the second and third stages, these will be studied together. We must not forget that we are dealing with a *general* vascular sclerotic disease.

As the disease progresses we have added to the simple hypertonus of the vessels an actual muscular hypertrophy and a sclerosed condition; thus the two elements, hypertonus and sclerosis inhibit the elasticity of the blood vessels; the loss of elasticity produces a rise in real blood pressure due to peripheral resistance.

The cases during this second stage either continue in a fairly uniform manner thereby setting up a general diffuse arteriosclerotic condition, or the connective tissue changes show a predilection for certain vessels or organs, thereby modifying the clinical picture considerably. The reason for this preference on the part of the disease is often explained either by the person's environment, the source of the toxemia, or hereditary tendencies; this later plays a very important part.

The symptoms in the general diffuse variety during the middle and latter part of the course may be readily summed up by saying they are prac-



tically those already given during the incipient period but more intensified.

The objective signs, however, need considerable revision. The peripheral vessels pulsate visibly and are more or less tortuous, especially the temporals, radials and brachials, if the patient be at all emaciated. The heart shows usually left-sided hypertrophy, the apex beat is forceful and irregular both as to rhythm and force. The systole is usually very deliberate. The second aortic sound is markedly accentuated.

*The pulse* is oftentimes irregular in rhythm, size is larger than normal. This is a point to be remembered when differentiating the pulse in hypertonus during early development from the later stages when the vessels have become weakened and dilated with a compensatory muscular hypertrophy and hyperplasia of the intima. The volume may be either full or small and pulse compresses with difficulty. The vessel wall is much thickened, this is best appreciated by cutting off the circulation with one finger and palpating the vessel distally. The real blood pressure may be either high or low depending upon the condition of the heart muscle, low pressure indicative of myocardial changes.

The sphygmogram is little different from earlier stages except the anocrotic limb is more sloping, the summit broad or blunt, tidal wave prominent and a gradual undulatory catacrotic limb.

The hæmomanometer readings during the second and third stages reach their maximum and they are quite continuously high. The highest that I have any record, was in a man that showed a systolic of 300 mm Hg. It is the experience of many that once the readings obtain a maximum pressure of a 190 mm Hg. rarely return to normal by treatment. In other words, after the vessels pass through the hypertonic stage and actually become sclerosed we are unable to ever again get normal hæmomanometer readings; this is explained by the fact that, as Russell states, the hæmomanometer does not register the real internal

blood pressure, but gives us a clue as to the amount of thickening present in the vessel wall.

Here, then, we have an apparatus that measures the *arterial wall resistance* plus the internal blood pressure rather than is commonly supposed, to measure approximately real internal blood pressure.

The termination of these cases of general, diffuse arteriosclerosis is that of a general progressive asthenia. Many, however, show symptoms and physical signs of chronic bronchitis, emphysema and cardio-renal disease.

We must consider lastly the cases that show a predilection for certain vessels or organs. They are classified as follows:

*The Cerebral Type.*—This class of cases occurs mostly among the brain workers or co-existing with cardio-renal disease. Savill states that the symptoms are largely due to a cerebral anæmia from the arteriosclerotic vessels. They complain of vertigo, loss of mental power, repeated attacks of migraine, giddiness and insomnia. After the vessels are well sclerosed we may at any time have from a sudden local hypertonus of the cerebral vessels a developing transitory facial paralysis, hemiplegia, aphasia, etc. These are of short duration usually, but should the hypertonus continue we get signs of a thrombosis, softening, terminating as cerebral hemorrhage.

The ophthalmoscopic examination is extremely valuable. The tortuous and sclerosed arteries can actually be seen. The veins appear strangulated especially where they cross the sclerosed arteries. Retinal hemorrhages are not uncommon.

*The Cardiac Type.*—These cases vary greatly as to whether the patient be corpulent or emaciated. As Babcock states: "It is a fact that individuals that have arteriosclerosis who are *thin*, live to old age, while aretriosclerosis in *corpulent* individuals is cut short in point of life by cardiac hypertrophy and sclerosis of the coronarys."

It is, then, this corpulent individual that especially interests us. These cases belong to the hearty eaters,



those that consume more or less alcoholic beverages, consumers of large amounts of starches and nitrogenous foods. These all tend to interfere with elimination through bowel, kidney and skin, hence we get symptoms and physical signs of defective metabolism and retained nitrogenous waste products. The increased weight of the body in addition to the arteriosclerosis is too much of a burden for the heart. The heart first hypertrophies, and this is the first sign of cardiac weakness; later we get symptoms of myocardial degeneration due to lack of nourishment through the sclerosed coronarys. As the stenocardia advances we get the phenomena associated with true angina pectoris. Oftentimes these cases terminate before the angina is well marked from secondary renal disease; or pulmonary asthma, emphysema or chronic bronchitis due to a weak heart.

The urinary findings show a concentrated urine, high specific gravity and many times laden with calcium oxylate or uric acid crystals, and at times a trace of albumin.

The hæmomanometer readings during the stage of increasing hypertrophy is higher than normal, but as stenocardia develops the readings become normal or below. Durrin collected 440 cases of arteriosclerosis and found 120 of these cases were normal or below, all of these showed well marked steno-cardia.

*Abdominal Type.*—By this we mean the organs referable to digestion. This variety has received the least attention among the various observers. The gastro-intestinal symptoms are many and varied but time and space will not permit of detail. I believe that in instances some of our cases of gastric neuroses and nervous indigestion as they are commonly called would come under this type. The "muscular excitants" which are a factor in hypertrophy of the median coat of the arteries would naturally have a similar effect in the smooth muscle of the gastro-intestinal tract. There may be symptoms of ulceration of the stomach and duodenum caused by a

thrombus in a sclerotic artery. Gastro-intestinal symptoms due to interference of nutrition from stonosed vessels. These organs are affected from the very beginning, for the splanchnic system of veins is nature's "safety valve" for the relief of a sudden contraction of the peripheral vessels. This fact is largely responsible for the insidious manner in which this disease makes its invasion. For a long time the vascular system gets relief from peripheral resistance by emptying the blood due to back-pressure, into the splanchnic vessels, when these fail to compensate, due to repeated congestion, we begin to get peripheral signs of arteriosclerosis. During the advanced stages we get signs of atony of stomach and bowel with their necessary evils, all due to lack of nutrition.

There is one organ of digestion that should attract our attention and that is the *pancreas*. Arteriosclerosis as it affects the areas of Langerhaus gives symptoms and physical signs of diabetes mellitus.

*The Renal Type.*—This is without doubt the most usual of the special forms and has long been studied. It was for years a controversy whether the general arteriosclerosis was the cause of the granular or contracted kidney or vice versa. Much light has been thrown upon the subject by the work of Gull and Sutton, also Dr. William Kraus. They believe that the *toxins* which circulate through the body cause the changes in the artery wall, and are also responsible for changes in the parenchyma of the kidney. Russell says the kidney is only a part of the general disease. The symptoms and physical signs you are all familiar with, those of an interstitial nephritis of vascular origin. The urinary findings show increased total quantity in 24 hours, low specific gravity, at irregular intervals hyaline casts and faint traces of albumin.

The hæmomanometer readings are unusually high, this is brought about in two ways, by the sclerosed peripheral vessels on the one hand, and



insufficient elimination from the kidney. The crippled kidney gives in time signs referable to secondary changes in the heart of left ventricular hypertrophy, much accentuated second aortic and of a decided metallic tone. The gallop rhythm or double second sound is found frequently with contracted kidney, and later on in the disease they suffer from loss of cardiac compensation. The lung shows signs of renal asthma or emphysema due to right heart failure. The crippled kidney may also give us evidence of a chronic uræmia with marked cerebral manifestations. We may have hemorrhages from the nose.

The ophthalmoscopic examination gives us a clue as to the progress of the disease as it affects the parenchyma of the kidney.

*Localization in Peripheral Vessels.*—This represents probably a smaller proportion of the cases, but certain peripheral vessels are affected more than others. The occupation of the individual is a prominent causative factor. Hence, in blacksmiths and cobblers who use one arm much more than the other, the vessels in the extremity most used are most sclerosed. Watchmen who do considerable standing we find more sclerosed in lower extremity. Radials may be more sclerosed than the brachials and the reverse is true.

These patients complain of sharp neuralgic pain or dull ache in extremity that is most involved. This fact is not always remembered by the examining physician. When we get an obscure localized neuralgic pain, especially in the extremities we should not forget that possibly the cause is one of arteriosclerosis. As the sclerosed condition advances the nutrition of the parts are diminished and sooner or later in many cases we get signs of ulceration and later gangrene. An obstinate neuritis may manifest itself simply because the nutrition has been cut off.

The hæromanometer readings vary according to the amount of sclerosis in different parts, hence different readings from that in opposite radial or brachial artery.

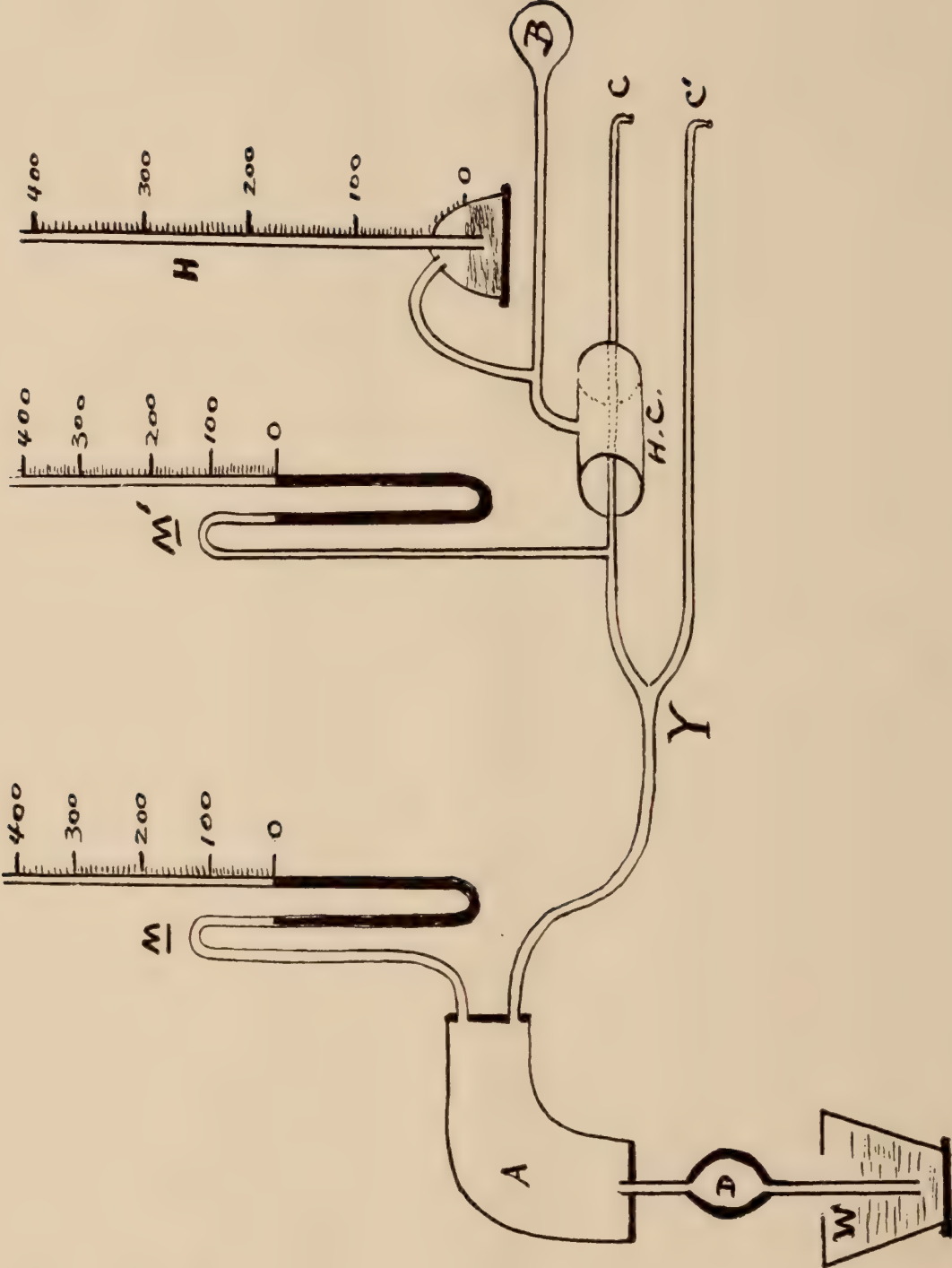
*Localization in Vessels of Uterus.*—There are a number of cases reported where patients suffer from menorrhagia and metrorrhagia at about the time of the menopause and after careful investigation it was found to be due to arteriosclerosis of the uterine vessels.

*Syphilitic Arteriosclerosis.*—This is a special subject by itself and certainly in a general consideration of arteriosclerosis one would not be justified in entering into the minute details. The onset is quite similar to what has already been said concerning the other variety, but as the pathologist tells us, the connective tissue begins as a peri-arteritis and not as a thickening of the intima. We find that the nutrition of the wall of the artery is more or less affected by the cutting off of the nutritional blood vessels—the vaso vasorum. These latter vessels predominate in the large arteries, hence we find that this disease although it involves the smaller arteries is prone to involve the large arteries to a greater degree. The symptoms and physical signs after the disease is well advanced is invariably that of dilation or aneurismal condition of the vessel wall.

There is a congenital syphilitic arteriosclerosis that should however be mentioned, this develops in the young, ten to fifteen years of age, giving the appearance of a diffuse permanent thickening.

Before giving my conclusions, I wish to acquaint you with some interesting and instructive data obtained by experiments which were carried on during the past year, bearing upon the present methods of estimating blood pressure. One accustomed to compared the readings made with a hæromanometer and those estimated by means of palpation is often confronted with the fact that a great difference exists between the two. This frequent occurrence lead me to carry on the following experiments, in order, if possible, to explain why this should occur. The diagram shown below is a sketch of the apparatus constructed with the idea to compare the internal pressure of a







fluid in an elastic tubing with the pressure that it takes to obliterate the flow as registered by a hæmomanometer.

*Explanation of diagram.*—W represents a reservoir of water. D an ordinary Davidson syringe; this contains a check valve so that fluid can be forced by compression of the bulb into a large rubber tube A with fairly thick walls ( $\frac{1}{8}$  inch) and lumen  $2\frac{3}{4}$  inch. Leading from A are two smaller rubber tubings, one connected with a mercurial manometer M which registers the internal pressure at all times in A. The other tubing, Y, having a calibre of  $\frac{1}{4}$  inch and at a distance of two feet divides into two other smaller tubings C and C', these latter may be changed at desire, as to calibre and thickness of wall for experimental purposes. These tubes also have each a capillary glass pipet opening of equal calibre at the periphery. Connected with C is a mercurial manometer M', similar to M; this registers at all times the internal pressure in either C or C'. The manometers M and M' were calibrated by the hæmomanometer used for these experiments. For experimental purposes, the syringe could represent the heart, A the aorta, Y the larger artery from the heart, C and C' the brachial arteries and the capillary glass openings the peripheral resistance or capillaries. H.B. and H.C. represents a Cook's hæmomanometer. The cuff H.C. is the same as used in a Janeway's apparatus and surrounds the rubber tubing C. The cuff was partially filled with a firm resisting medium covered with absorbent cotton through which the tubing penetrates thus simulating as near as possible the humerus and soft parts of the arm.

We have now an apparatus which fairly represents the natural mechanical conditions while estimating the blood pressure with a hæmomanometer. By rhythmically contracting the bulb D with the hand, water is forced into A, thence through Y, flowing out through the capillary openings to C and C', M recording the pressure in A and M' the internal pressure

in either C or C'. H registers the amount of pressure it takes to obliterate the flow through C, by forcing air into the cuff H C with the bulb B. The obliterating point being when the water stops flowing out of the capillary opening. The water continually flows out of the other tubing C'.

*Experiment No. 1.*—From Y to C and C' were inserted thin, almost collapsible rubber tubings, having a lumen of  $\frac{1}{4}$  inch and wall thickness of  $1-64$  inch. This is much thinner than the brachial artery, it more nearly simulating a vein. M was utilized to regulate the amount of force to be used at D in order to keep a uniform oscillating pressure in C and C'. It was noted that the pressure maintained in A was practically the same as in C and C'; however, the actual reading was one or two millimeters lower in A than at C.

While a pressure of 100 mm Hg. was being maintained in C and C' during contraction of the bulb D, and 50 mm Hg. during relaxation, it required 110 mm Hg. of mercury, as registered by Cook's hæmomanometer, to obliterate the flow of water through C. Making a difference of 10 mm Hg. between the actual internal pressure in the tube C and the obliterating pressure as shown by the hæmomanometer. This difference measures to a fairly accurate degree the amount of resistance in the wall of the rubber tubing. A higher internal pressure was now maintained in C by compressing D more forcibly, so that an oscillating pressure between 130 and 60 mm of Hg. was maintained in C and C'. It required 138 mm of Hg. to obliterate the flow through C, a difference of 8 mm Hg.

*Experiment No. 2.*—From Y to C and C' was inserted thicker rubber tubing than in the first instance. The wall measured  $1-32$  inch, with same lumen  $\frac{1}{4}$  inch, with an oscillating internal pressure oscillating between 100 and 50 mm Hg. C and C', the hæmomanometer recorded 200 mm Hg. at point of obliteration, a difference of 95 mm Hg. With an internal pressure



oscillating between 130 and 60 mm Hg., the hæmomanometer recorded a reading of 220 mm Hg. at point of obliteration, a difference of 90 mm Hg.

*Experiment No. 3.*—From Y to C and C' was inserted still thicker rubber tubing, lumen  $\frac{1}{4}$  inch, wall 1-16 inch. The internal pressure oscillating between 100 and 50 mm Hg. It required 235 mm Hg. as recorded by hæmomanometer to obliterate the flow, a difference of 135 mm of Hg., with an internal pressure oscillating between 130 and 60 mm Hg. the hæmomanometer recorded 250 mm Hg. at point of obliteration, a difference of 120 mm Hg.

*Experiment No. 4.*—From Y to C. and C' was inserted rubber tubing of same size and wall thickness as was used in experiment No. 3. The tubing having been boiled so as to weaken its wall and yet maintain same calibre. With the internal pressure oscillating between 100 and 50 mm Hg. It required 225 mm Hg. as recorded by the hæmomanometer to obliterate the flow through C, a difference of 125 mm Hg. With an internal oscillating pressure in C and C' of 130 mm Hg. and 60 mm Hg., the hæmomanometer recorded an obliterating pressure of 240 mm Hg., a difference of 110 mm Hg. It will be noted by comparing this experiment with No. 3 that the process of boiling or weakening the wall of the tubing and not altering the size lowers the pressure necessary to obliterate the flow through the tubing.

*Experiment No. 5.*—Instead of the hæmomanometer being attached to the rubber tubing C, I applied a regular Dudgeon sphygmomanometer and obtained the following sphygmograms, under various conditions.

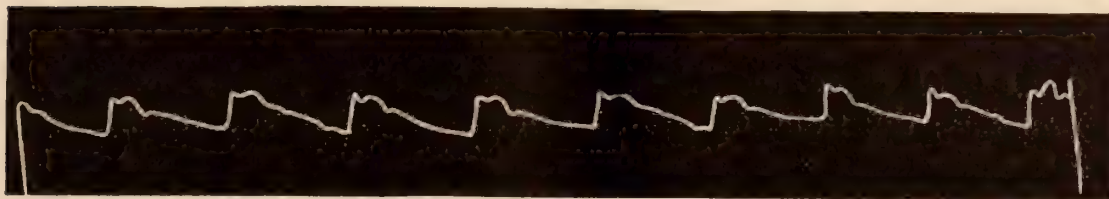
Sphygmograms I and II were made from two different cases of general arteriosclerosis, having much thickened brachial vessels. No I was from a man that had his pressure estimated by palpation by three of my colleagues and myself, we were all within 20 mm Hg. of each other, the average being 180 mm Hg. We recognized the fact that the vessel wall was much thickened. With Janeway's hæmom-

anometer the pressure measured systolic 265 mm Hg. diastolic 140 mm Hg. The sphygmographic tracing shows the usual picture, the anacrotic limb is short and gradual, the apex decidedly blunt or "square top," predicrotic notch prominent. The second sphygmogram is a similar case with somewhat lower blood pressure, systolic 210 mm Hg. diastolic 135 mm Hg. In neither of these cases can I believe that the actual pressure within the brachial vessel was anything like that registered by the hæmomanometer, the estimation by palpation was to my mind nearer the correct condition. The high readings by the hæmomanometer were due, I believe, to the much thickened arterial wall. This is largely supported by the remaining tracings III to VI. Instead of placing the hæmomanometer about the rubber tubing I placed the sphygmograph upon, *first*, the same tubing and under the same conditions as in experiment No. 3, obtaining a sphygmographic tracing as shown in No. III. It shows well nearly all the characteristics of a high tension pulse and yet the internal pressure was only 100 mm Hg. but the hæmomanometer registered 235 mm Hg.; this latter reading must be due to the thickness of the wall of the rubber tubing.

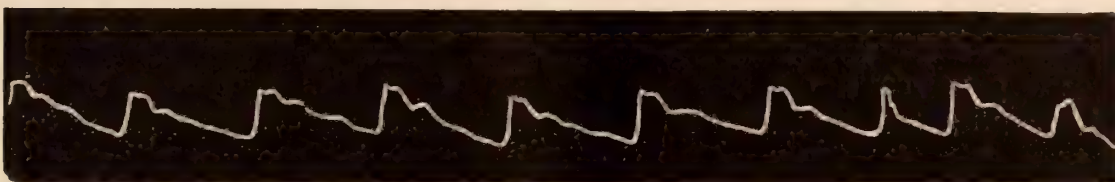
Tracing No. IV shows the result under the same conditions as in No. III except the rhythm of contracting the bulb was slower. Tracing No. V was made from another tubing of thinner walls. Conditions were the same as used in experiment No. 1. The result is quite different, showing long upstroke, pointed apex, and sudden drop of the lever in the downstroke. Although the internal pressure was the same for both III and V the wall of the rubber tubing I believe was responsible for these differences.

Tracing No. VI shows results of another change of tubing, this time same as in experiment No. 4. Analyzing the sphygmogram we find that the upstroke is shorter and more gradual, with pointed apex and not so sudden a

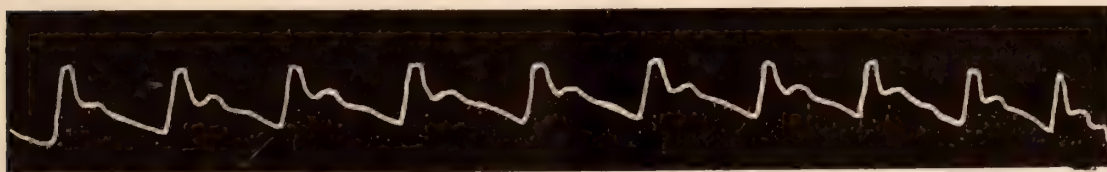




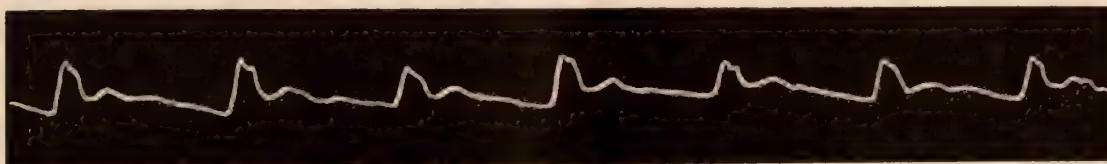
Case of general arteriosclerosis. Sphygmographic tracing, radial artery. Systolic pressure, 265m. Hg. Diastolic, 140m. Hg.



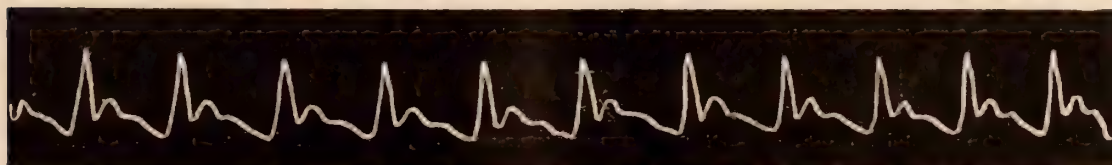
Case of general arteriosclerosis. Sphygmographic tracing, radial artery. Systolic pressure, 210m. Hg. Diastolic, 135m. Hg.



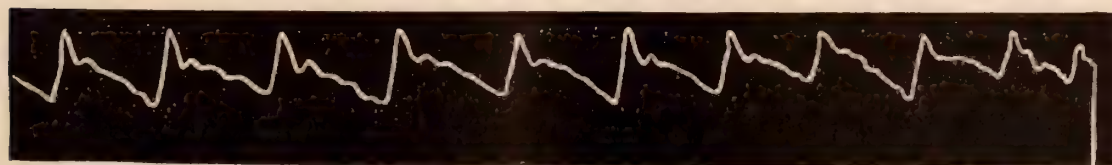
Sphygmographic tracing from rubber tubing used in experiment No. 3. *Internal* systolic pressure, 100m. Hg. Hæmomanometer reading—systolic, 235m. Hg. Difference, 135m. Hg.



Sphygmographic tracing from rubber tubing, same as just above, except the rythm slow.



Sphygmographic tracing from rubber tubing used in experiment No. 1. *Internal* systolic pressure, 100m. Hg. Hæmomanometer reading—systolic, 110m. Hg. Difference of 10m. Hg.



Sphygmographic tracing from boiled rubber tubing used in experiment No. 4. *Internal* systolic pressure, 100m. Hg. Hæmomanometer reading—systolic, 225m. Hg. Difference of 125m. Hg.



drop of the lever on the catacrotic limb as occurred in tracing No. V. It is about midway between tracing III and V and yet in all three, the internal pressure remained the same as shown by the manometer. The explanation for the differences in the three sphygmograms III, V, and VI is, I believe, due to the different conditions of the wall of the rubber tubing. This same analogy can easily be applied to the actual artery. The hæmomanometer and the sphygmograph do not separate the internal arterial pressure from that due to wall resistance as does the palpating finger, hence I believe the discrepancy oftentimes between estimating the blood pressure by the use of a hæmomanometer and *tactus eruditus*.

#### CONCLUSIONS.

1. That arteriosclerosis clinically should include all those cases where there is a permanent thickening not due to atheroma.
2. That arteriosclerosis is a general vascular disease but shows a predilection for certain organs or sets of vessels.
3. That the first stage of the disease is destitute of pathologic changes in the vessel wall, and that the firm vessel is due to a hypertonus of the muscular coat with a diminished calibre

both as to size and lumen. This hypertonus is due to the action of "muscular excitants" in the circulatory blood, either directly upon the muscle or through the vaso motor apparatus.

4. That the first stage is recognizable clinically and is the only stage when we may expect a permanent cure. After hypertrophy of the muscular coat and thickened intima has occurred the disease is bound to progress, but may be retarded.

5. That the hæmomanometer does not give the pressure within the artery, unless we have a normal vessel under normal physiologic circumstances. These readings do show more or less accurately the resistance of the vessel wall.

6. That the *tactus eruditus* is the best means at present of estimating the real blood pressure, clinically, as has been demonstrated. The hæmomanometer does not distinguish between internal pressure and artery wall resistance and that instruments devised for recording blood pressure by compressing the artery to point of obliteration of the pulse, really register the combined arterial wall resistance and internal pressure. This should not detract from the usefulness of these instruments but emphasizes the value of correct interpretation.

310 Clinton Avenue.

## MEDICAL TREATMENT OF ARTERIOSCLEROSIS.

By GLENTWORTH R. BUTLER, M.D.

THE treatment of arteriosclerosis, by the very nature of the disease, can not be curative. Neither art nor mind can restore a degenerated and fibrotic artery to its pristine perfection of smooth and soft resiliency. Nor does every one inherit good blood vessels. Without discoverable reason the arteries, at 35 or 40 years of age, or even in childhood, may exhibit changes customarily seen many years later in life.

But arteriosclerosis, once discovered, and especially if recognized in

its early stages, is in a large degree amenable to measures which will check its progress and mitigate its consequences. It is scarcely possible to present anything new on the treatment of general arterial disease, but, at the request of the President, I have endeavored to collate certain recommendations which the experience of our profession has shown to be of practical value.

A prime essential is an obedient and tractable patient. To secure results it is often necessary rudely to



interfere with the habits, and apparent necessities, of a life-time of 40 years or more. It is not always easy to establish radical changes in the mode of living in men and women who are on the flood-tide of an active, and perhaps important, career. There are few persons who care to be told that they must shorten sail, seek harbor in fair but strong winds, and narrowly limit the extent of their ventures. The character of a life-long occupation may, from a therapeutic point of view, be highly objectionable, and we must advise a relaxation of effort when perhaps a long desired goal is not far away. Our own profession, with its well-known inherent occupation-liability to cardio-vascular disease, is an example in point. There are few, if any, who can eliminate the high-tension-producing worries, anxieties, and emergencies incident to over-work.

There are those among our patients who may think the game not worth the candle, who would rather wear out than rust out. Such an one has some reason on his side; it must, to some extent, be a matter of preference; and if he feels that he will, on the whole, be happier to run until he drops, he is entitled to his choice. But too often when the race is run, regrets, mayhap very bitter, will intrude. We have all known men who would willingly barter some honor and some money, for a few more years of a quiet and restful existence. It is only fair to put before a patient, who comes with a sober and serious inquiry, the two sides of the picture; the high-speed engine which rapidly wears itself out, or the quiet-running machine which does not go to the scrap heap for many years after its swifter brother has been reduced to junk.

Given a man with beginning arteriosclerosis, who has been made submissive by reasoning, argument, or perhaps, fear—what shall he be advised to do, and not to do, in order to arrest or to delay its progress.

Upon a knowledge of the causes of arteriosclerosis the advice for re-

tarding its advance is based. These causes are:

1. Hereditary weakness of the arteries.

2. Anxiety, worry, and the competitive high-pressure work of professional, business and social life.

3. Syphilis, congenital and acquired; typhoid fever, diphtheria, scarlet fever, measles, influenza, and tuberculosis, gout and diabetes.

4. Over-use of alcohol and tobacco, perhaps also tea and coffee.

5. Over-eating—taking food and (non-alcoholic) drink much in excess of the actual needs of the body. This is a most frequent cause of arteriosclerosis among those who are otherwise models of abstemiousness. Such excess produces a high arterial tension, not only by over-filling of the vessels, but, as well, by loading the blood with tension-raising substances resulting from the incomplete metabolism of the excessive intake.

6. Severe muscular labor extending over long periods of time.

7. Persistent high arterial tension, whether due to infections, intoxications, continued mental stresses, or prolonged and severe muscular work, appears to be, *per se*, a cause of arteriosclerosis.

Obviously some of these causes have passed when the patient is seen, only their effects remaining, *e. g.*, typhoid fever. Others may be irremovable, *e. g.*, arteries of an inherited poor quality, or the necessity of earning a living in a medically undesirable fashion.

NON-MEDICINAL TREATMENT.—The general advice to be given relates to food, work, and exercise.

*Food.*—Regarding the diet of arteriosclerotics probably the most important requirement, in the majority, is a strict limitation of the amount of food and of drink taken. Next to this is the partial or entire omission of meat from the dietary. By so doing some of the potent causes of high arterial tension are done away with. The arteries are no longer over-distended with blood containing the irritating products of imperfect metabolism,



especially those derived from the muscle-tissue used as food.

Except in persons who, because of painful digestion, have reduced the food-intake to a minimum, it is quite possible to cut down the amount eaten until it is one-half or even less of that habitually consumed. If the work of Chittenden, and of the layman, Fletcher, has done nothing else, it has demonstrated that one can maintain health and vigor on a quantity of food much below that which has been universally accepted as the working minimum. Whatever may be the facts with regard to the average healthy person, there can be no doubt that for the high-tension, hard-artery man the minimum allowance is essential. A "luxus" consumption for him is conspicuous better by its absence than its maintenance.

Nor does this diet spell hardship, except for those whose palate reigns supreme. The diminution in amount should be gradual, and thus the loss of the accustomed sense of fulness and satiety will be much less likely to make itself felt. Allowing fish, a strip or two of bacon, a small slice of ham, and the like, will largely prevent the craving for beef and poultry. The protein needs of the body can be very amply supplied by fish, eggs, milk, the gluten of bread, and other foods containing lesser but appreciable quantities of nitrogenous substances.

Thus one allows the moderate use of eggs, and urges milk and its preparations. Kumyss and kephyr form a variety. Whether or not the adviser accepts the views of Metchnikoff as to the role of lactic acid preparations in the prevention of putrefactive processes in the intestine, the practical value of sour milk is well-established. Use, therefore, buttermilk, curds spontaneously soured (the "bonny-clabber" of olden times), or milk artificially fermented by one of the several lactic acid bacilli now commercially prepared. Fish, oysters, all kinds of vegetables, vegetable soups, bread-stuffs, cereals and fruits, cream, butter, and olive oil (which means salads), with occasional relishes of

bacon or ham, should, in point of variety, satisfy any reasonable person. If his belly is his god, and his taste-buds are engrossingly hypertrophied, he will grumble and rebel. If he prefers to live to-day and die to-morrow, our skirts are clear.

Alcoholic drinks should be struck completely off the list. Tea, coffee, and tobacco it is scarcely necessary altogether to abolish, but, if used, it must be in moderation.

*Work.*—Very rarely is it advisable to counsel a busy man to give up all work, even though, as rarely happens, he can afford so to do. It is bad enough for him to be told that he is not the man he was, that he must consider himself as, in a sense, crippled, and that he is required henceforth to walk within narrow limits of activity. The evil results of a sudden and total withdrawal from all the interests of an active, full, and, perhaps, prosperous life, are very well known. The main-spring of action runs down; regrets, despondency, and weariness of life may, and often do, follow close on the heels of the winding up of his affairs, and his life is shortened rather than prolonged.

The right thing for him is seriously to consider, with the same shrewd attention which he gives to his work, the means of making that work easier for himself. He should plan to cut down his hours of labor, to shift to younger persons the burden of detail, to arrange for longer vacations in summer, and for one in winter as well. Almost every one has interests outside of his business or profession, frequently involving much care and anxiety—these, and everything else not essential to his absolute minimum of work, should be abandoned. Not infrequently the patient presents himself in such a condition that a long vacation, the longer the better, is very desirable. After this, rested and refreshed, he is much better fitted to take up his life-work, modified in such a manner as to lessen its intensity.

As for the poor fellow who has neither skill of head nor hand, but, perforce and for lack of such skill,



does the heavy muscular work of the world, there is little or nothing to be said. He can not take things easily. In him it is most probable that alcohol, and syphilis, perhaps also improper food and tobacco, do quite as much in producing arteriosclerosis as does his hard labor.

*Exercise.*—For the arteriosclerotic, unless the disease is far advanced, exercise in moderation is distinctly advantageous. The only caution should be against sudden and violent, or unduly prolonged, muscular exertion. Exercising so long as to cause a fatigue which is carried over to the following day or the day after that, is definitely injurious. Moderate muscular work dilates the peripheral arteries, flushes the skin, and causes gentle perspiration. This means that the arterial tension is lowered and the work of the heart thereby lessened.

Golf has proved the salvation of many middle-aged hard workers. Country walking, a delightful but much neglected pleasure, is another desirable exercise; nor, if done with care, is up-hill walking to be forbidden. Riding an easy-gaited horse, or quiet bicycling on level roads, are both permissible.

*Bathing.*—A daily cool bath in the morning in warm weather is both allowable and useful. In winter the water should be warm and the bath taken at bedtime. The Turkish bath should be used with caution and experimentally at first. It is, in my opinion, definitely contra-indicated in advanced sclerosis.

*Medicinal Therapeutics.*—Whether or not the iodine preparations have the power of causing absorption of the fibrotic tissue in the arteries is, perhaps, an unsettled question. The stated fact that if, in experimental work, iodide of potassium is administered at the same time with adrenalin, the usual arteriosclerotic changes do not develop, is an indirect argument in the affirmative. Whatever may be the truth of the matter, the clinical evidence of the benefit derived from the use of iodine salts is indubitable. While the potassium salt

usually has the preference, the iodides of sodium, and especially of strontium are, as a rule, much better borne. As the good results are apparently due to the iodine element it is desirable to use them rather than the potassium compound. When the stomach is irritable, it may be possible to employ one or the other of the more recent forms of iodine which the drug market of to-day supplies.

If a syphilitic origin is suspected large doses should be given. In non-specific cases smaller doses answer perfectly well. In either class the drug should be given for weeks or months with occasional intermissions of a week or two.

The giving of conjoined small doses of arsenic and the bichloride of mercury, alternating with the iodides, has done apparent good service.

An occasional dose of calomel followed by a saline is a valuable and useful measure. Such a dose may be given at regular intervals of three or four weeks. If a prejudice against calomel exists, a brisk saline purge at the same, or even shorter intervals is very desirable.

A permanent lowering of an excessive and prolonged blood-pressure by the use of any drug, is hardly to be expected. It should, and often can, be accomplished by the non-medicinal measures already described. But for considerable periods the high tension may be controlled by the regular use of the vaso-dilators, especially sodium nitrite, and erythrol tetranitrate; or of that very helpful depressor, aconite.

If the heart muscle lacks tonicity, and the tension remains high, the tincture of strophanthus is generally acknowledged to be more desirable than digitalis, as it acts in a distinctly lesser degree than the latter, as a contractor of the arterioles.

The treatment of the various complications, renal, cerebral, cardiac, and others, does not fall within the scope of this paper.

With a tractable patient, who is able to carry out the proffered advice, the management of a case of arteriosclerosis is frequently most satisfactory in the results obtained.



# THE SURGICAL TREATMENT OF LESIONS DUE TO ARTERIOSCLEROSIS.\*

By PAUL M. PILCHER, M.D.

BROOKLYN-NEW YORK

UNTIL recently we did not recognize the presence of arteriosclerosis as the primary cause of numerous surgical conditions, unless there was some gross interference with the arterial supply causing gangrene, and necessitating surgical care. As a result, very little has been written upon the subject and in consideration of it I can give only a personal view.

For the purpose of discussion, it would seem logical to consider the subjects in three phases:

FIRST.—The surgical treatment of diseased conditions which are the result of pathological changes caused by arteriosclerosis, not including death of tissue, in which symptoms arise demanding relief.

It has long been recognized that arteriosclerosis of the vascular system of the kidney has given rise to varying degrees of nephritis; furthermore there are other changes which predispose to hemorrhagic diathesis, local infarctions, and points of lowered resistance that fall an easy prey to infecting micro-organisms. In a nephritis, the result of arteriosclerosis, we look for our most brilliant results from renal decapsulation; the explanation of this phenomenon has not been satisfactory, nor do I offer any new suggestions. Most of the cases, after decapsulation, show at least temporary improvement, some writers claiming permanent cures, but the failures have been so numerous that this heroic method of treatment finds few adherents. Knowing that we have *loci resistentiae minoris* and that arteriosclerosis is of frequent occurrence in elderly people, those observers who have had experience with cases of unilateral septic infarcts of

the kidney believe this to be the predisposing cause of the condition. The surgical indication is immediate removal of the affected kidney; at first, incision and drainage of the kidney was recommended, but practically all of these cases died. It must be stated, however, that gross examination of the organ often fails to demonstrate the presence of the infected foci, and not until a number of days have passed and the infective process has developed, is the diagnosis firmly established. One such case was recently reported before the Brooklyn Surgical Society by Dr. Bristow and since that time a second case has occurred in our service.

The ovary is frequently the seat of the arteriosclerosis, and the symptoms that arise are such that surgical treatment is demanded; the symptoms of ovarian pain and painful menstruation are most prominent; the organ as a whole shares in the sclerotic process, and many surgeons believe that total removal of the ovary is required. It is our own belief that this is far too radical, and we recommend resection and multiple scarification of the organs as being sufficient in the majority of cases to relieve the suffering.

The prostate figures frequently as the seat of arteriosclerotic disease; in fact, the majority of our cases show some degree of arteriosclerosis. We do not believe that this is the cause of the obstructive hypertrophy, but it is certainly a factor and the condition of the blood vessels often gives rise to serious hemorrhage during and previous to the operation.

The arteriosclerosis which accompanies diabetes is frequently the cause of prostatic disease in this class of patients, and Heinrich Stren, of New York, believes that it is found

\* Read before the Medical Society of the County of Kings, March 16, 1909.



proportionately with more frequency in the diabetic man than in the healthy individual and that it supervenes at a decidedly earlier period of life. There is a frequent desire to urinate, especially at night, but this is at first ascribed to the diabetic infection. In the diabetic prostatic, the only surgical measures adopted are those to control the cystitis, and this will be unavailing unless prompt anti-diabetic treatment be instituted.

Occasionally perforating gastric ulcer seems to be the result of angiosclerotic disease of the gastric arteries, and a thrombosis of the arterioles of the gastric mucous membrane deprives it of its resistance to auto-digestion. Ulcer of the appendix, resulting in perforation, has also been observed in the presence of arteriosclerosis of the arteries of that organ; both of these conditions lead to serious surgical calamities.

SECOND PHASE.—The surgical treatment of those conditions in which hemorrhage is the most prominent symptom, where the hemorrhage is due to arteriosclerosis.

This occurs most frequently in the brain, the uterus and the kidney. During the past few years the question has arisen among surgeons whether it would be possible to check the hemorrhage or to remove the blood-clot which forms in cases of cerebral apoplexy. Certainly it would seem logical to at least trephine and relieve the pressure of a clot where it is causing localized motor paralysis. The problem, however, is not so easy as it might seem, because many of the hemorrhages are within the brain tissues and can not be reached without considerable damage to the brain itself. No one has done more work in this branch of surgery than Harvey Cushing, of Baltimore, and although he has met with some degree of success, still he does not recommend it strongly enough to warrant our adopting it as a routine practice.

Renal hemorrhage arises from various causes. In 1904, Dr. L. Freeman reported the case of a man, fifty-nine

years of age, who had suffered for a number of years from unilateral renal hemorrhage; an operation was done, a small section was removed from the kidney, and decapsulation of the organ was performed. The bleeding ceased after eighteen hours, and no further evidence of hematuria appeared. An examination of the piece that was removed showed advanced arteriosclerosis of the organ, and marked glomerulo-nephritis. The case is cited simply as an example of hemorrhage in an organ which was in a state of advanced arteriosclerosis.

*Arteriosclerosis of the uterus* has been frequently observed, and the persistent hemorrhage calls for surgical treatment. It occurs most often in women between forty and fifty years of age, and among those who have borne children. The condition is distinctly different from the arterio-obliterans of the normal senile uterus in which the vessels are partially obliterated by the thickened intima; this does not cause hemorrhage. Palmer Findlay, of Chicago, believes the primary factor in the causation of the hemorrhage to be the muscular incompetency. The media and the adventitious coats of the vessels are thickened, impairing the elasticity of the vessel walls so that oftentimes the lumen of the vessels is not narrowed by constriction of the walls, and capillary oozing is favored. The diagnosis is made primarily by exclusion; neoplasms, adnexal diseases, abnormalities of uterine position, etc., must all be ruled out. Menorrhagia is the only symptom; this becomes more marked, the intermenstrual periods become shorter and shorter until, finally, the bleeding is almost continuous. Medical treatment, local applications and curettings fail to relieve; scrapings from the uterus may show sclerosed vessels; the organ is somewhat enlarged. As a rule, however, the diagnosis is not made until microscopical sections of the uterus are examined. There is only one certain method of cure, and that is total extirpation of the uterus.



THIRD PHASE.—The surgical treatment of gangrene due to arteriosclerosis of the nutrient artery.

Under this head come senile and pre-senile gangrene, Raynaud's disease, and diabetes.

*Senile gangrene*, which is typically a dry gangrene of the lower extremities, depends upon the obliteration of the lumen of the arteries by sclerosis or atheroma. Of the two forms of arteriosclerosis, the diffuse and the nodular, it is usually the latter that causes gangrene by forming solitary multiple nodules, sometimes plaques, encroaching upon the lumen of the artery; this favors coagulation of the blood. The nodules occur wherever arterial branches are given off, which naturally would injure the collateral circulation.

The second form is the pre-senile or spontaneous gangrene, which is a form of gangrene due to arteriosclerosis occurring in middle life or in young people. There is some question, however, as to the exact pathology of the pre-senile spontaneous gangrene. Leo Buerger, of New York, describes the process as a thrombo-angiitis obliterans. It occurs frequently among the Polish and Russian Jews, in young adults, between the ages of twenty and thirty-five or forty years.

In both forms of the disease, that is, arteriosclerotic gangrene, and obliterating thrombo-angiitis, the symptoms are those due to disturbance of circulation, sensation, function, etc. The foot or toe becomes cold and numb, with sensations of tingling and perhaps pain, the disturbances of circulation are shown by cyanosis or mottling and the usual signs of local anemia. A most characteristic sign is that described by Charcot, and depends on anemia of the leg muscles which is shown by an intermittent limp that disappears after a rest of a few moments and then comes on quickly again. Muscular cramps are sometimes very distressing. Gangrene nearly always begins in the toe, usually following some slight injury, the toe swells, becomes a dusky reddish-purple and then a bluish-black

color; there is usually considerable pain during this stage, but it gradually ceases and is referred higher up on the leg. If the gangrene remains dry, that is, if infection does not occur, the toe mummifies. The great danger is of infection, which spreads upward, especially on the lines of fascia between the muscles. If infection occurs, the gangrene may spread rapidly upward and involve the entire leg, but usually the gangrene is localized and a line of demarcation early shows itself. Gangrene is usually unilateral.

TREATMENT.—The existence of arteriosclerosis is usually known to the patient, or at least to his physician, and when symptoms indicate threatening gangrene, all such methods as rest, elevation of the foot, and warm protection of the leg and foot should be instituted, at the same time giving local and general stimulants and, if necessary, adopting the use of arterial dilators. If gangrene occur, everything possible should be done to keep it dry by the use of some antiseptic drying powder, such as boric acid powder, and the application of sterile cotton; under these circumstances, a distinct line of demarcation will probably form. No surgical interference should be instituted without considerable caution because of the danger of extension of the gangrene due to the traumatism of the operation and the possibilities of infection. Pain should be controlled by the use of morphine or opium. If, however, the gangrene spreads from the toe to the foot, especially in the presence of infection, high amputation is recommended; but the choice of site of operation, above or below the knee, must be made entirely with reference to the conditions which present themselves to the individual patient. If pulsations can be felt in the popliteal there is no need to amputate above the knee. The writer would prefer amputation done under cocaine or under hyoscin-morphine anesthesia, under which are avoided the sudden circulatory changes due to the administration of ether or chloroform; also, under local anesthesia, the operation can be



more slowly performed and the condition of each separate vessel ascertained as it is sectioned, avoiding any compression of the vessels. Either sutures or adhesive strips may be used to close the wound. The progress of the disease depends usually upon the existence of arterial thrombosis which

blocks the collateral as well as the main blood channels. Diabetic gangrene is also due to nodular arteriosclerosis with thrombosis, and its treatment requires a special chapter, as also does gangrene arising from any other disease causing hypertrophy of the coats of the vessels.

## CALORIMETRY IN INFANT FEEDING.\*

By WALTER D. LUDLUM,

BROOKLYN-NEW YORK

THE science—or art—of infant feeding may be divided into two parts; the one is purely mathematical;—given a milk or cream of a known percentage of fat, proteid and carbohydrate (and this we can and do know, at least within a smaller error than necessarily exists in our estimation of an infant's digestive capacity) with materials of known composition to be added, and anyone, except the occasional individual utterly devoid of any mathematical sense, can prepare a food containing such proportions of these substances as he may desire; and this he may learn to do merely by a sufficient amount of book study. In saying this I am not in the least neglectful of the fact that we distinguish even now between casein and the whey-proteids, and that, in the future, we may still further differentiate the proteids and may distinguish different varieties of fat, etc., etc., this merely complicates the calculations.

The other element in the art of infant feeding is very different; given any variety of milk formulæ, and it still remains a matter of judgment, based largely on clinical experience—aided of course by the recorded experience of others—what particular combination of materials is appropriate to the individual case. While calorimetry is mathematical it belongs to the second part of infant feeding

because it aims to aid the physician in deciding what formula to use; or it might claim as its object the reduction of the limits of this second part.

Not satisfied with the merely empirical formulæ commonly employed, certain investigators, chiefly of the German school, tried to measure the needs of the child for food and to build up formulæ for its use on theoretical grounds. To this end two factors were investigated: (a) the amount of proteid; (b) the amount of total energy required per day per unit of body weight. The number of grams of proteid per kilo has been called the "proteid quotient," the number of calories per kilo the "energy quotient." It has been learned further that the proteid quotient increases steadily and rather rapidly from birth for a few weeks, rising from .6 gram in the first week to 2.1 in the fourth, and then more slowly till at the end of a year it has reached 2.7 grams. The energy quotient, on the other hand, is highest at birth, about 100 in a normal nursing child, and drops to about 80 at one year of age, the figures being somewhat higher—perhaps 20 calories—in an artificially fed infant. These amounts and their variations have been expressed in tables.

Now for the use of these figures: given a child of a given age and weight, the weight multiplied by the proteid will make the amount of proteid required by that child; as the pro-

\* Read at a meeting of the Long Island Medical Society, May 4, 1909. Slightly modified for publication.



teid comes altogether from the milk, and amount of that which will yield the given amount must be supplied; the percentage of proteid is approximately the same whether we use mixed milk or various amounts of top milk. From the studies of Holt, Rotch and others, we know to some degree the gastric capacity of the child (and while the child's weight must receive some consideration, I think its age the best guide in this respect) and the proper number of feedings per day, hence the total quantity of food to be given. In most cases a child can digest an amount of sugar equivalent to 6 per cent. of the total amount of food given, so this is added and the caloric value of this and the milk computed. The remainder of energy needed must be supplied by milk-fat and this can be secured from cream added or better by the use of top milks.

In this way formulæ may be prepared—either in the form of tables or extemporaneously for the individual case—of milk, milk-sugar combinations (or, if desired, of other combinations of foods) containing, not such a percentage of proteid, carbohydrate and fat, but instead so much energy expressed in calories and so much proteid.

For example, take a child 4 months of age, weighing 13 pounds. (Use the tables at the end of the paper.)

The proteid quotient (in grains per pound) is 16; therefore he requires 13 times 16 or 208 grains of proteid.

Each ounce of milk yields 20 grains of proteid; therefore use  $10\frac{1}{2}$  ounces of milk.

At 4 months the gastric capacity is about 5 ounces and 7 feedings are given per day, *i. e.*, 35 ounces in all; assuming the milk to contain enough sugar, enough should be added to the remaining 25 ounces (approximately) to make 6 per cent. or one and one-half ounces of milk sugar.

The caloric requirement of a child of 13 pounds (energy quotient 45) is 585.

One and one-half ounces of milk sugar yields one and one-half times

120 or 180 calories. Ten and one-half ounces of 4 per cent. milk yields ten and one-half times 21 or  $220\frac{1}{2}$  calories, together practically 400 calories, leaving 185 calories to be supplied by extra fat. I use top milks, the quantity of milk used is  $10\frac{1}{2}$  ounces, 185 divided by  $10\frac{1}{2}$  makes about 18, the number of *extra* calories to be supplied per ounce, 10 per cent. milk will supply about that amount.

To recapitulate:

Ten and one-half ounces of 10 per cent. milk.

One and one-half ounces of milk sugar, with enough water to make 35 ounces will yield: 208 grains of proteid and 585 calories, which are the requirements of a 4-months-old child weighing 13 pounds.

If these figures could be accepted as final and applicable to all cases it would reduce the whole of infant feeding to a mathematical science; as a matter of fact the calorimetric method seems to me of more value as a check on the results of other methods of calculating milk formulæ than as a system, by itself, of preparing baby food. Thus to use it as a test is very simple, requiring few known figures and not extensive calculations: knowing the age and weight of a child, with the proteid and energy quotients, the amount of proteid and number of calories required can easily be computed. Knowing the percentage composition of a given food and the caloric value of its components, the proteid and caloric content can be readily figured; even this calculation can be simplified by knowing the total caloric value of the various foods. Of course the figures may be used in grains and ounces as well as in grams and kilos, but the greater simplicity of the decimal metric system is obvious as soon as calculation is begun.

As with many other laboratory procedures there is a tendency in some quarters to exaggerate the importance of this one; it can be accounted only an aid, albeit a valuable one, to ordinary clinical observation; it fails to provide for variations in digestive



capacity, the capacity to utilize the food ingested. There is no question but that, as between the clinical evidence of satisfactory feeding, and a theoretically proper food—proper calorimetrically—we should all choose that on which a baby thrive.

As with any mathematical subject a little work with pencil and paper is required to grasp this one, but with such little effort the simplicity of the calculations will be promptly apparent. I have given by themselves all the figures needed for the method.

As a matter of interest I have compared and written out below the proteid and caloric values of a series of average formulæ from Holt, with the assumed needs of the average child of the corresponding age; the harmony between empiricism and laboratory science (if those words should be used) is rather striking.

#### APPENDIX I.

##### *Energy Quotient.*

Normal breast-fed infant:

First six months 90-100 calories per kilo, or 41-46 calories per pound.

Second six months 80-90 calories per kilo, or 36-41 calories per pound.

Artificially fed infants 20 calories per kilo more.

##### *Energy Values of Certain Foods.*

Each gram of proteid or carbohydrate yields 4.1 calories.

Each gram of fat yields 9.3 calories.

Each ounce of 16 per cent. milk yields 54 calories.

Each ounce of 10 per cent. milk yields 38 calories.

Each ounce of 7 per cent. milk yields 29 calories.

Each ounce of 4 per cent. milk yields 21 calories.

Each ounce of fat-free milk yields 10 calories.

Each ounce of sugar yields 120 calories.

Each ounce of flour or cereal yields 100 calories.

##### *Proteid Quotient.*

First week—.6 grams per kilo or 4 grains per pound.

Second week—1.2 grams per kilo or 8 grains per pound.

Third week—1.8 grams per kilo or 12 grains per pound.

Fourth week—2.1 grams per kilo or 14 grains per pound.

Then till six months—2.4 grams per kilo or 16 grains per pound.

Then till one year—2.7 grams per kilo or 18 grains per pound.

Each ounce of 4 per cent. milk yields 20 grains of proteid (approximately).

##### *Equations Used.*

Weight of child x "energy quotient" equals number of calories required.

"Energy value" of food given equals number of calories given.

These, of course, should equal each other.

Weight of child x "proteid quotient" equals number of grains of proteid required.

Number of ounces of milk given x 20 equals number of grains of proteid given

These, of course, should equal each other.

#### APPENDIX II.

A comparison between the computed caloric requirements and average Holt formulæ:

	Wks. 2	Wks. 3	Wks. 4-8	Mos. 3	Mos. 4	Mos. 5	Mos. 6	Mos. 7-10	Mos. 11-12
Average weight in pounds....	7¼	7½	9	11½	13	14¾	15¼	17	19
Calories required, using energy quotient 41 for first six months, 36 for second six months .....	297	313	369	471	533	589	625	613	684
Calories given.....	272	390	406	437	616	667	634	800	712
Proteid required.....	58	91	126	184	208	230	244	306	342
Proteid given.....	77	120	137	241	269	302	336	518	613
Number ounces per feeding...	2	2½	3	4	5	6	7	7	8
Number ounces per day.....	20	25	24	28	35	35	36	42	40

##### *Gastric Capacity according to Holt.*

At birth, 1 oz.

At two weeks, 1½ ozs.

At four weeks, 2 ozs.

At six weeks, 2¼ ozs.

At eight weeks, 3 ozs.

At ten weeks, 4 ozs.

At three months, 4½ ozs.

At four months, 5 ozs.

At five months, 5½ ozs.

At six months, 6 ozs.

At seven months, 7 ozs.

At eight months, 7½ ozs.

At nine months, 7½ ozs.

At ten months, 8 ozs.

At eleven months, 8½ ozs.

At twelve months, 9 ozs.



## LONG ISLAND MEDICAL JOURNAL

A Forum for the Discussion of all Topics involving the Medical Profession and especially that of Long Island.

EDITOR-IN-CHIEF

PAUL MONROE PILCHER, A.M., M.D.

ASSOCIATE EDITOR

JAMES MCFARLANE WINFIELD, M.D.

EDITORIAL OFFICE:

386 GRAND AVENUE, BROOKLYN, N. Y.

Further Information on advertising page 3

SEPTEMBER, 1909.

### MEDICAL INSPECTORS IN BROOKLYN.

**D**URING the past year an effort has been made by the Board of Health to concentrate all of the administrative work in the Borough of Manhattan.

The first move on the part of the department was the transfer of our sanitary superintendent to the New York office, and later to appoint him as chief of a new department of so-called "Child Hygiene." For a time no action was taken by the members of the Medical Society of the County of Kings, but when it was discovered that on account of the establishment of this new department fifty-five men were dropped from the number of medical inspectors in Brooklyn, thus crippling very greatly the regular inspection of our schools, a committee was appointed who made a strong protest to the Mayor which resulted in the reinstatement of many of the men and the appointment of a head to the Department of Health in Brooklyn.

The advantage gained by the Borough of Brooklyn seems, however, to have been only transitory, for within the past few weeks thirty-five of our health inspectors have been again laid off without cause.

Strange as it may seem, the men who were dropped were nearly all old men in the work, some of whom had been working in the Department of Health for over fifteen years.

Last winter the chief of the department also attempted to remove measles from the list of contagious diseases. The official figures of the reports of the Department of Health show that since January 1st about 8,000 cases of measles have been reported in Brooklyn, and it is only fair to estimate 4,000 more which were not reported after the order of Dr. Darlington withdrawing the disease from the contagious list.

As a result of these various conditions during one of the summer months just passed, there was a mortality of 324 babies under one year of age, in Brooklyn, as compared with 263 in Manhattan. The chiefs of the departments were at a loss to account for this startling disproportion, but when we look back over the inefficiency which has been displayed in the handling of affairs of the Health Department in Brooklyn, it is not a strange coincidence.

In making up the budget for the year 1909, the city authorities granted a large sum of money for the maintenance of the inspecting force. This budget provided for 301 medical inspectors for the whole city—127 being detailed to Manhattan, 27 to the Bronx, 10 to Richmond, 99 to Brooklyn, 25 to Queens, and 13 to other work in the department. The money was appropriated for this force of experienced men, who were all under the Civil Service. On January 1st of the present year, Dr. Darlington suspended 105 men, which was practically one-third of the entire force. The money which was saved in this



was diverted to the Sanitary Division to the detriment of the prevention of infectious and contagious diseases. Of the 105 men, 55 were taken from Brooklyn, and from the other boroughs together the other 50 men were laid off. Later, a number of Manhattan men were sent over to Brooklyn to take places of those who had been dropped, and finally the force of inspectors in Brooklyn amounted to 78 in all. Of those who were detailed to visit all cases of contagious diseases, establish quarantine and provide fumigation, one-half the number was dropped, 13 in all remaining. Of these 13, 2 were assigned to do detective work and spy on the other 11. It is utterly impossible for 11 men to inspect and properly advise all of the contagious and infectious diseases occurring among 1,500,000 people.

On August 25th 33 men were laid off from the force of 78 holding positions, among these being older men who had been appointed practically to permanent positions under the Civil Service Commission.

From an unbiased standpoint it appears that the Health Department in Brooklyn is becoming more and more demoralized. The men are constantly shifted and are given more work than is possible for men to do honestly. Under the present provisions only a superficial inspection can be made and this by men not as familiar with the work as some of those who have been laid off.

There is no question but that politics has had something to do with the choice of those who have remained and those who have been laid off. It is hoped that in the fall the matter will be taken up by the Medical Society of the County of Kings and more justice be demanded for the Borough of Brooklyn.

## MEDICAL WORDS COMMONLY MISPRONOUNCED.

EVERY physician has his own peculiar pronunciation for the many and complicated words which make up the vocabulary of our medical language. The medical dictionaries are not always positive themselves as to the proper pronunciation and so we are left to choose for ourselves. Some words, however, are commonly mispronounced, prominent among which are the following:

AC'I NUS  
 AN-AL-GE'SIA (AN AL-JE'SIA, or  
 GA'SI-A  
 A-NEM'IC  
 BRUIT (BREW)  
 CA CA'O  
 CO'CA-INE  
 COC'CI (KOK'SI)  
 CO'I-TUS  
 CON'DYLE (KON'DIL)  
 CO-NI'UM  
 DU-O DE'NAL  
 EC'ZE MA  
 EM'E-SIS  
 EN'E-MA  
 Ē''TI-OL'O-GY  
 FĀC'ET (FAS'ET)  
 GEL SE'MI-UM (JEL-SE'MI-UM, or  
 GEL-SEM-I-UM)  
 GLU-TE'US  
 GUI'A-CUM  
 GYN-E-COL'OGY (JIN-E-COL'OGY)  
 HEM-A-TEM'E-SIS  
 HEM OP'TY-SIS  
 HY-OS CY'AMUS  
 HY-PER-EM'E-SIS  
 JAUN'DICE (JARN'DICE)  
 LU'TE-UM  
 MAS-SE'TER  
 MED'UL-LA-RY  
 MES'MER-ISM (MEZ'MER-ISM)  
 NO'MEN-CLA-TURE  
 O BĔS'I-TY  
 O-RIG'A NUM  
 PAN'CRE-A-TIN



PAR'E-SIS  
 PA-RÉT'IC  
 PATH''O GÉN'IC  
 PHRÉN'IC  
 PIL'U-LA  
 POD-O-PHYL'LIN  
 PTO'MA-INE  
 PU-RU LENT  
 RALE (RARLE)  
 RA'PHE  
 RO SE'O-LA  
 RUB-E'O-LA

SCYB'A-LA (SIB'A-LA)  
 SĒ-QUE'LA  
 SI-NA'PIS  
 SPLEN'IC  
 SYN-E-CHI'A  
 TREN'DEL-EN BURG  
 TRI CHI'A SIS  
 U'RA-CHUS  
 VE-SI'CA  
 VI-TEL'LINE  
 XIPH'OID (ZIF-OID)

## MEDICAL NEWS.

EDITED BY JAMES M. WINFIELD.

**Clinic for Epileptics**—The clinic for the treatment and study of epilepsy was established at the Polhemus Clinic, Long Island College Hospital, early in the year. It is a part of the department of nervous diseases, and under the supervision of Dr. William Browning.

**Floating Sanitarium**—The old ferry boat Susquehanna has been fitted up as a floating hospital for tubercular patients, the boat will remain in commission until cold weather.

**Jewish Hospital of Brooklyn**—Have filed plans for a \$100,000 nurses' home. The new pathological annex is about completed.

**The Nurses' Home** of the Kings County Hospital will be opened early in the fall.

**Dr. W. A. Macy's** cottage at King's Park was partly destroyed by fire. Dr. Macy is the Superintendent of the Kings Park State Hospital.

**Dr. Henry M. O'Reilly**, late of the Brooklyn Eye and Ear Hospital, has opened an office at 82 Sixth Avenue, Brooklyn.

**County Laboratory Wanted**—Physicians of Nassau County have

filed a petition with the board of supervisors, asking that a county laboratory be established and a county bacteriologist appointed.

**Dr. William H. Nammack**, Far Rockaway, has been reinstated as coroner's physician of Queen's Borough.

**Vasectomy in Connecticut**—The House of Representatives at Hartford passed a bill July 20th, establishing in Connecticut the principle of providing against the increase of defectives by performing the operation of vasectomy on criminals and inmates of state institutions for defectives in cases wherein the physicians deem it wise that the breeding of other defectives be not permitted.

## DEATHS.

**M. S. Caldwell, M.D.**, New York University, 1879. Died at his home, Far Rockaway, July 6, 1909.

**Albert M. Curry, M.D.**, University of Pennsylvania. Died in Brooklyn, July 26, 1909.

**Andrew J. Dower, M.D.**, Bellevue, 1878. Died at his home in Brooklyn, July 10, 1909.



# TRANSACTIONS

OF THE

## BROOKLYN PATHOLOGICAL SOCIETY

493d *Regular Meeting*, April 8, 1909.

Edited by C. G. CRANE, M.D.

The Vice-President, E. E. CORNWALL, M.D., in the chair.

### PANCREATITIS CURED BY MEDICAL MEASURES.

A paper with the above title was read before the Society by Dudley D. Roberts, M.D.

### PRELIMINARY REPORT OF A SERIES OF CASES OF SEPTIC PERITONITIS.

A paper with the above title was read before the Society by Russell S. Fowler, M.D.

Dr. WILLIAM E. BUTLER said these cases come to us in a desperate condition requiring desperate measures, and he thought the advice of the doctor and the rapid operation he suggests, in order to conserve the patient's strength and energies, is the ideal one. He believed cocaine anesthesia better than general anesthesia for these cases. He did not believe the question of the extra few minutes time taken to invert the stump of the appendix in septic cases would work harm to the patient. The speaker stated that with simple ligation a fecal fistula is apt to follow.

The question of irrigation of the abdominal cavity he thought is a grave one. If the fluid is thick the infection is rather local, if thin and fluid it extends into the general cavity. In one case he irrigated where there was considerable fluid. The pulse ran from 110 to 130 in three or four hours and within twenty-four hours the patient died. He ascribed this unfortunate result to the irrigation. The patient was placed in the Fowler position and pelvic drainage established, yet absorption was so rapid that the heart was overwhelmed. The speaker also thought Murphy rectal irrigations of advantage in these septic cases.

Dr. HENRY C. KEENAN took exception to the statement of Dr. Butler as to the results of methods of treating the appendix other than inversion. Dr. Butler made the statement if we do not turn in the stump we get fecal fistula in most cases. With his last fifty or sixty appendectomies, he has tied off the stump of the appendix and severed it by means of the cautery, and in no case did he have any fecal fistula or trouble afterward. He thought this method in the hands of other men gave just as good results as inversion of the stump.

Dr. PAUL PILCHER thought that it made a more finished operation to invert the stump of the appendix, and fasten the cut end of the meso-appendix over it. Many operators never invert the stump and in simple uncomplicated cases never have the development of a fecal fistula. In the cases with septic peritonitis it is seldom best to employ the additional traumatism which inverting the stump calls for. The operations should occupy only a few minutes.

Dr. RUSSELL S. FOWLER said this was the first of a series in which considering all factors he had tried to arrive at some definite conclusions. Of course, the treatment is to operate before perforation, but unfortunately we can not get these cases early enough. It is striking that only fifteen of these cases were within twenty-four hours, and that these cases got well irrespective of treatment. That must mean that the peritoneum was not sufficiently damaged to interfere with absorption. The absorption that had occurred was not sufficient to land the germs in other parts of the body.



They did not die of complications as other cases do.

In regard to the treatment of the stump of the appendix, it has been noted that some men simply ligate the stump. He had operated on cases in which the whole appendix was not excised, and appendicitis had recurred in the unexcised portion. In other cases dense adhesions had formed between the stump and the intestines, and in the female between stump and the tube and ovary. He had not seen any cases of fecal fistula following ligation. When present he thought it came rather from a necrotic process in the cecum than the method of operating.

There was some question raised in regard to hemorrhages following inversion of the stump. As many hemorrhages come after ligation as inversion, he stated.

#### INTRACRANIAL NEURECTOMY FOR TRI-FACIAL NEURALGIA.

A paper with the above title was read before the Society by Warren S. Simmons, M.D.

Dr. H. BEECKMAN DELATOUR said he was glad this case was brought before the Society, because it would bring to the attention of the profession what was being done to-day in connection with this class of cases. Probably cases show more misery and suffering than these poor people with facial neuralgia, and they are very willing to submit to any form of operation, no matter how dangerous it may be, as in a case he would report. They accept the operation in the hope of relief possibly not such as we are looking for ourselves. He remembered this particular case and the suffering the patient endured.

The Krause-Hartley operation, the speaker said, was a very different affair from the operation described by Dr. Simmons. In the course of the Hartley operation a much larger portion of bone was removed, the brain had to be much displaced to get at the ganglion, which caused decided com-

pression of the brain during the period of operation, and also tended to produce changes in the brain tissue, and then in that operation the effort was made to remove the ganglion, and in the efforts to do so the first division was interfered with, and very frequently the nerves of the eye were interfered with and loss of vision on the affected side was not an uncommon occurrence.

At the time he operated on this case the question of doing the intracranial operation was quite debatable, and several operations for attacking the nerve from without the skull were then in vogue. The first operation as described by Dr. Simmons the attack was on Meckel's ganglion, and the second division of the nerve as it entered the superior maxillary bone. He removed the ganglion without doubt, and thought possibly divided the nerve or a large section of it. The second operation consisted of an incision along the angle of the jaw and dissecting up until he came to the foramen in the inferior maxilla and completely divided the inferior maxillary nerve where it entered the bone. He saw the nerve at that time and unquestionably divided it, but was not able to remove a section. Notwithstanding that the pain recurred and the symptoms continued.

The speaker thought we must congratulate Dr. Simmons and his patient on this result, and with the foramina plugged he did not see that there was any likelihood of recurrence, for cases treated in the same way that have been reported have remained cured for years.

About four or five weeks ago he had a patient, a lady about 56, who had suffered for seven years the same torments as the patient just presented, and was at the point where she was willing to submit to any form of operation. He did practically the same operation as Dr. Simmons had detailed, the only particular difference being that the zygoma was not divided. He was able to get at the nerves without any difficulty without dividing the zygoma. That was a decided advan-



tage in that when the parts were replaced the bone prevents the falling in of the cheek and the scar is much less visible.

In this case in the preliminary stage he adopted the suggestion of Cushing of fastening the towels to the scalp by suture, that is, the head was not completely shaved, only the immediate area about the field of operation. That prevented any possibility of the towels slipping during the operation and infection coming in that way. It only takes a few silk sutures through the towels and the scalp to hold the protectors in place, and when they are removed there are no ill effects to the patient subsequently. The speaker thought this an important point in the preparation.

In the case he operated on hemorrhage from the bone was not important. In raising the dura he got the customary hemorrhage, but not a great deal. It did not become troublesome until he got well down in the fossa close to the foramina. Packing with iodoform gauze without the adrenalin served to stop the hemorrhage. One point of caution he would mention was when you put the packing in take your time, sit down and count off five minutes on the clock. He did not believe any of us appreciated this space of time when waiting, unless one watched it actually ticked off. If you pull out the packing too soon, hemorrhage recurs, you have to go all over again, and you have lost so much time. The quickest way of reaching the foramina is to go in and pull back the dura as far as you can until the hemorrhage gets so bad you are afraid to go further, and then pack and wait five minutes.

The little electric retractor Dr Delatour used was an ordinary tongue depressor with an electric light on the top, and it is certainly a wonderful instrument for that particular purpose. In his case he was able to see distinctly the foramina ovale and rotundum as if he had a prepared skull. With a hooked knife he divided the nerves, and then on careful inspection he saw the nerves were not completely

divided. It seemed when he passed the knife in, he went completely behind the nerve, but on the inner wall there was a portion of the nerve sheath still remaining undivided, and he believed without the light this undivided portion would be overlooked and that it is perfectly possible that is what has happened in a number of cases where the operation has not proved successful. Failing to divide the nerve completely with the hooked knife, he used a scalpel, and cut then directly against the opposite wall of the foramina, and there was no question then the nerve was completely divided, and with the hook he pressed down in the canal the distal end of the nerve. Then the foramina were closed with dental gutta percha. He used gutta percha instead of gold, because he thought he could control it a little better from behind, pushing it through the foramina, and it worked nicely. The gutta percha was boiled and moulded into the foramina and left there.

The operation took seventy-five minutes. The patient made a perfect recovery and left the hospital a very happy woman.

Dr. WARREN S. SIMMONS said the two points brought out by Dr. Delatour were of extreme importance, waiting a certain length of time and seeing the foramina. Two minutes seemed to be sufficient for the work inside the skull. Several substances have been used in the foramina. In some operations rubber tissue was placed between the dura mater and the skull and acted very well; others have used the amalgam filling used by dentists. He thought gutta percha a valuable means of closing up the foramina, and it is more easily worked than thin gold.

Results are what we are looking for, he said, and in a good many old ganglion operations the patients died. The eye became inflamed because of the cutting of the first division which supplies the conjunctiva with sensation. Foreign bodies entered the eye and were not felt and conjunctivitis followed. That in many cases caused total destruction of the eye.



The only possible recurrence after a complete division of the nerve and plugging the foramina so that there can be no regeneration, is where the lesion is in the ganglion or in the sensory root between the ganglion and the brain, or in some cases of persistent tri-facial neuralgia it has been found the lesion is somewhere in the floor of the fourth ventricle. For relief of that nothing can be done, but in the dissecting room he had been impressed with the fact, that if it were possible to ligate the internal carotid outside the skull, and then again ligate it inside the skull immediately where it makes its entrance in the cranial cavity at the apex of the petrous portion of the temporal bone, if the apex of the petrous portion of the temporal bone could be removed, it would be easy to divide at least one-eighth of an inch of the sensory root of the fifth nerve in the canal. This could be done without destruction of the motor root, although destruction of the motor root would not have a deleterious result on the mastication of the food.

#### **ABDOMINAL TUMOR DISCHARGING THROUGH UTERUS BY WAY OF FALLOPIAN TUBE.**

Dr. WILLIAM E. BUTLER presented a specimen taken from a lady 49 years old, who had had one child 29 years ago. She came to him with a history of having been bleeding for eighteen months. She had a thin brown discharge looking like that coming from a cancerous uterus. Pelvic examination showed a large mass on the left side, fixed, and filling up the pelvis. He concluded he had a carcinoma of the uterus involving the broad ligament. He also thought it might be an adherent fibroid.

He made the usual incision, and the first thing to present itself was the sigmoid flexure. He raised the mass up and found it connected with the ovary and tube and was adherent to the sigmoid flexure, which had completely closed over it. It was free on the side of the uterus. The uterus was small and atrophied, and he concluded there was no trouble in the uterus it-

self. Cutting down he broke into the sac and removed a tumor, and found it open at the end of the tube. Evidently that had been the seat of the discharge from the uterus. On taking it out and opening it the inside presented the appearance of a sarcomatous growth. The ovary was not involved, but simply the tube and extending down into the broad ligament. He removed it as deeply as he could. The gross appearance, he said, showed pretty distinctly it was of sarcomatous type extending into the broad ligament. The patient made a perfect recovery.

Dr. JOHN O. POLAK said without a pathological report on this specimen, at the age of this woman one would hardly be justified in saying this was a sarcoma. Many hemorrhages of different types simulate sarcoma.

#### **ACUTE GASTRIC DILATATION.**

A paper with the above title was read before the Society by John C. MacEvitt, M.D.

Dr. JOHN O. POLAK said he had seen eight cases of post operative dilatation of the stomach in his last 1,000 abdominal operations, and the percentage was about in accord with the percentages the doctor had found in his exhaustive examination of the literature, the complication is sufficiently frequent to warrant all that the doctor has said concerning the diagnosis.

In regard to the etiology of these cases, it seemed to him that they are dependent on a combination of the two factors he spoke of, in the motor insufficiency and the mesenteric obstruction.

The two fatal cases he had, were autopsied, and it was interesting to note the absolute absence of gas or content of any sort in the entire small intestine. We could follow the small intestine and find them ribbon-like to the duodenum. In both of these cases it was evident at the time of autopsy that there was a distinct duodenal constriction. All of the eight cases had been placed in the Fowler position following operation. The two fatal cases



were in multiparous women with lax abdomen, with long mesentery allowing the intestines to fall in the pelvis and be crowded down by the distended stomach. These were the only points in the etiology it seemed to him worthy of note after the doctor's exhaustive paper.

In regard to the treatment, postural methods have been extremely valuable, that is, having the patient assume the right lateral prone position with the elevation of the foot of the bed. This with repeated lavage of the stomach and the use of eserine and strychnine, had resulted in a satisfactory recovery in six of these patients.

It was astounding to note the quantity of fluid such a stomach can secrete in the course of six to eight hours, between the lavages. In one case it amounted to seven pints, the second siphonage was over four pints, and then as the tonicity of the stomach seemed to be regained, the repeated siphonages came down to a very small quantity.

There is no question, he said, that motor insufficiency is a very large factor to the hypersecretion following anesthesia. In all of his cases the anesthesia had been begun with chloroform and continued with ether, the largest amount of ether used, being 5½ ounces and the largest amount of chloroform in addition one-half ounce, so that he would feel that it was the motor insufficiency primarily, the hypersecretion secondarily, with lax abdominal walls and long mesentery which came in as etiological factors.

Dr. DUDLEY ROBERTS asked Dr. MacEvitt whether it had been proven that fermentation was in any sense responsible for the gastric dilatation. If there was in these cases an excessive production of gastric juice with a normal or supernormal acidity it would hardly be possible that yeasts or bacteria developed in sufficient numbers to occasion gas in any great amount. If, however, the fluid found in these cases contained little or no Hc<sup>1</sup> it might well be that the gas was the result of fermentation and that this gas by stretching the stomach walls caused paralysis. The speaker said that he felt considerable doubt that the gas does arise from fermentation or that the gas is a primary cause of the dilatation, although it might be a secondary and contributing factor in the development of the complete picture.

Every case met with should be carefully studied as to the character of the stomach contents with the idea of clearing up these mooted points which have such a bearing on the etiology and consequent treatment.

Dr. JAMES M. DOWNEY said one case that came under his observation was not treated by the Fowler position.

The patient was on a milk diet for three days before the operation. The operation was a simple ovarian cyst. After the third day she began to vomit. Dilation had not assumed large proportions. She had a very lax abdomen and had been on a milk diet for three days, and he thought fermentation with a long mesentery had something to do with the dilation.



# TRANSACTIONS

## OF THE

### BROOKLYN SURGICAL SOCIETY

*Regular Meeting, April 1, 1909.*

The President, C. H. GOODRICH, M.D., in the chair.

#### FRACTURE OF PATELLA.

Dr. M. FIGUEIRA showed a patient with a patella which had been fractured and wired twelve years ago, and another patient with a patella which had been fractured and not wired at all. He presented them to show the contrast. The one that was wired has no separation, the other has; yet one man has as good use of his limb as the other, showing that the claim of those who say that these fractures can be treated successfully without operation is a valid one.

The first man before operation was treated by splints, and as the result was not good, the patella was wired with a satisfactory result. The other man was treated the same way, without operation and the result is good. The speaker advised against operation as a primary treatment.

#### UTERINE FIBROIDS.

Dr. M. FIGUEIRA said that in presenting these tumors he wanted to make one point. It is a fact, he stated, that patients suffering from uterine fibroid are subject to cardiac trouble, and statistics show that these patients are liable to cardiac and arterial degenerations. More cases of fibroid of the uterus are complicated with thrombosis and embolism than any other form of surgical disease, and these patients often die suddenly before and after operation, so that the mortality for hysterectomy for fibroid of the uterus is a large one. Some claim it is the pressure of the tumor itself, and others that it is due to a special action on the blood. Others claim this degeneration is due to the chronic anemia produced by the prolonged loss of blood and the disturbances inherent to the condition the tumor produces.

One of the specimens presented was quite large, and in both of them the patients were normal, said the speaker. They did not suffer from metrorrhagia or menorrhagia, and only suffered from the mechanical conditions of the tumor and the deformity. Both of these cases recovered without any bad symptoms, showing it is not the presence of the tumor, but a chronic condition produced by loss of blood that causes the cardiac and vascular symptoms these patients are subjected to.

Dr. L. W. PEARSON said that six weeks ago he saw a case of fractured patella, which he cut down upon. Part of the capsule intervened between the fragments and there was a good deal of clot. The capsule was in a ragged condition, and he thought then he should never try to get a fracture of the patella to knit without operating on it. Dr. Figueira showed a good result of fracture treated without operation. Notwithstanding that and his large surgical experience, he expressed surprise that he should treat such a fracture without exploring it. With modern methods of asepsis we could open the knee without fear of infection and the results are much better. The union when sutured is bony; when not sutured it is fibrous.

Dr. Figueira's non-sutured case was two years old, but nevertheless, the speaker said, there is a tendency for these fragments to stretch as time progresses, and there is a danger of refracture. When sutured, if fracture takes place, it is in another portion of the patella, while in the ligamentous union the point of refracture is at the site of the former injury.

Dr. M. FIGUEIRA said that the fact that the fragments of the capsular liga-



ment and shreds of tissue fall between the fragments is ancient history. In spite of that these cases do well treated by splints. He had seen them and all surgeons of experience had seen them. He had known of cases which were operated on that had died of septicemia. That happened to a good surgeon, and you can not say you can operate with a certainty that septicemia is not going to take place. He believed Senn said he never was sure.

Dr. W. S. SIMMONS stated that it seemed to him the question of operation or non-operation depended on the point Dr. Brinsmade made as to whether we are going to get a good functional result or not. A man who he had seen fell off a street car and fractured his patella, and had a ligament five inches long, could run up and down stairs and there was no limp in the injured limb.

The question of operation in fractured patella would depend greatly on the surroundings of the patient. He would not feel justified in opening a knee joint unless he could have the patient in a well equipped operating room. He saw no reason why it should not be operated on within twelve to fifteen hours. At that time the blood is easily washed from the joint, the fragments he had found in comminuted cases had been easily brought into apposition by the introduction of a heavy chromic gut suture surrounding the patella and then by apposition of the capsule he had good results.

His experience was those operated on recovered the function of the limb more quickly than those treated by the expectant method.

#### OSTEOTOMY OF FEMUR.

Dr. W. B. BRINSMADE said this patient had suffered from an arthritis of the knee joint, the exact nature of which was uncertain. All the structures of the joint were destroyed and voluntary movements were impossible. The leg became fixed in a position of marked abduction from the line of the thigh and the more she walked the greater the abduction became, until she

was practically unable to get about. Two years ago he performed an osteotomy on the femur, making an angulation in that bone to counteract the deformity at the knee joint. She wore a brace for some months and has been able to perform the ordinary vocations of her life. Amputation had been considered in this case, and the speaker thought this might be called a happy result.

#### TUBERCULAR OSTEITIS OF HUMERUS.

Dr. W. B. BRINSMADE stated that a year ago he presented a specimen of tubercular osteitis of the head of the humerus, and now presented the patient. He has improved in health and vigor and is now employed as a shoe salesman.

#### COMPOUND FRACTURE INTO ELBOW JOINT.

Dr. W. B. BRINSMADE said this patient was injured October 24, 1908. Examination showed a compound fracture into the elbow joint. The external condyle was separated from the humerus and interfered with flexion of the arm. The wound contained particles of foreign matter. The loose fragment was removed and the wound partially closed. The wound suppurated, but closed in due time. Examination on discharge showed a good result.

#### FRACTURE OF ANATOMICAL NECK OF THE HUMERUS.

Dr. W. B. BRINSMADE stated that this patient, age 9 years, was injured September 1, 1908. Examination ten days after the injury showed a fracture of the anatomical neck of the humerus or a separation of the epiphysis. It was impossible to hold the fragments in apposition by any of the devices tried. An X-ray picture was taken with the arm extended at right angles to the body. It was then noticed that the head of the bone assumed the correct relation to the shaft, but that their relation was lost as soon as the arm was moved. The arm was then enclosed in a plaster cast at an angle of 120 degrees from the body.



This cast embraced the chest. After ten days union was found to have taken place, and the function of the joint seemed about to be entirely restored when he left the hospital.

#### **COMPOUND COMMINUTED FRACTURE OF TIBIA AND FIBULA.**

Dr. W. B. BRINSMADE said this man was brought in with a compound comminuted fracture of the tibia and fibula about two inches above the ankle joint. We found it a difficult case to treat. The wound was infected when he got at it. The man was put on the operating table four times before he got the ends of the bones squared off and the wound cleaned in a satisfactory manner. After leaving the hospital he had another fall, but now he has good union although there is necrosis in the bone. He finally removed an inch of the tibia and fibula.

#### **SOME OBSERVATIONS ON THE UNCOMMON FRACTURES AND THEIR CARE.**

A paper with the above title was read by William B. Brinsmade, M.D.

#### **ACUTE INTESTINAL OBSTRUCTION.**

Dr. W. H. RANKIN reporting this case said that the young man who came under his care was sent in for intestinal obstruction. For five or six days he had been unable to have a movement of the bowels.

When the speaker opened the abdomen the intestines were distended and dark in spots. He vomited on the table, aspirated some fluid and very shortly thereafter died.

The terminal loop of the ileum had descended into the pelvis for about twelve inches, and the collapsed loop was a foot long. There was a slit in the mesentery with a loop of the intestine in it. The loop was held down with a reflected fold of peritoneum, which extended from the loop in the mesentery to the appendix and head of the cecum, and the appendix was under this reflected fold of peritoneum and inserted in the ileum.

He asked the mother of the boy if he had had colic in his youth or any trouble or disturbance, but she said no, he had been perfectly well all his life.



# LONG ISLAND MEDICAL JOURNAL

VOL. III

OCTOBER, 1909

No. 10

## OBSERVATIONS ON THE RELATION OF DISEASES OF THE UPPER AIR PASSAGES TO ASTHMA, COUGH AND DISORDERS OF DIGESTION \*

By THOMAS R. FRENCH, M.D.

YOUR persuasive chairman is so largely responsible for the selection and presentation of the subject of this paper that if it fails to interest or instruct, I might, perhaps, be pardoned if I should feel inclined to lay the blame at his threshold. The worst of such a situation would, however, probably be that his genial nature would enable him to bear such a burden so graciously and lightly that I, in consequence, would be placed in a position of embarrassment. To avoid such a highly undesirable contingency I must, therefore, I suppose, assume all responsibility for the shortcomings of this paper which I am well aware are many in number.

The subject selected for discussion is a large one, far too large for proper consideration in one evening. I have been asked to consider not only the etiological relation of diseases of the nose and throat to affections of other parts of the body, but the relation of other organs and parts to the nose and throat as well. After a seemingly sufficient survey of that broad field I was impressed with the belief that the interest of such a body of medical men as this section represents, would most likely be engaged by the presentation of such phases of the subject as are more or less constantly coming under the observation of the practitioner of internal medicine. I have, therefore,

selected for consideration a few functional disorders commonly called reflex neuroses. I say called, because neuroses have no anatomical or pathological basis and many of the neuroses of modern civilization are so obscure and shadowy that we do not pretend to cope with or even understand them. We are forced to confess that practically all we know about this alluring and elusive subject has been learned from empirical clinical experience; that certain symptoms can at times and in certain individuals be relieved by certain measures.

When Hack first called attention to nasal reflexes they were confined to ocular symptoms, sick headache, neuralgia, cough and asthma, but more extended experience has seemingly made it appear that a large number of morbid phenomena take their departure from the upper air passages. Indeed the nose, and those highly interesting but exceedingly troublesome little organs the faucial tonsils, are now, to at least some extent and in a variety of ways, held responsible for hay fever, asthma, spasmodic cough and spasmodic croup, for disorders of the digestion, of the heart, of the eye, of the ear, for headache, aprosexia, chorea, rheumatism, endocarditis, nephritis, bronchitis, pneumonia, pleurisy, appendicitis, phlebitis, meningitis, skin lesions, parotitis, jaundice and synovitis. And the nose and throat are in turn reflexly disturbed by disorders of the digestive and

\* Read before the Section on General Medicine of the Medical Society of the County of Kings, May 10, 1909.



sexual organs and lesions elsewhere in the body. From the rapidly growing knowledge of the function of the tonsils, which is being acquired by men of distinction in pathology and biology, it is evident that we are but at the beginning of our knowledge of what those interesting but thus far little heeded organs are really for. It is at least safe to say that, in the light of recent revelations, the tonsils are of greater clinical importance than the appendix, and it would, therefore, seem to be wise for us to rid our minds of the belief which has existed until of late years, that the tonsils were almost, if not entirely, purposeless excrescences.

I regret that the limit of time to which I must confine myself to avoid wearying you will make it impossible in this paper to even touch upon most of the reflexes just mentioned, or to consider at all the causative influences of the faucial tonsils. The particular expressions of functional disorders giving rise to symptoms in, or which are produced by conditions existing in, the upper air passages to which I shall, however, direct your attention with the hope of engaging your interest, will in this writing be limited to three, and they are: 1st. The nose in relation to asthma. 2d. The nose in relation to cough, and 3d. Nasal and pharyngeal catarrh in relation to gastric and intestinal indigestion.

While Voltolini may not have been the first to discover the etiological relationship between nasal polypi and bronchial asthma, he *was* the first to cure the patient of asthma by the removal of that neoplasm. The removal of intra-nasal pressure through the extirpation of a nasal polypus or other morbid tissue in the nose, will sometimes give relief to a bronchial asthma almost as quickly as the removal of pressure from an electric button will stop the ringing of a bell. There is, it would seem, but one way for these conditions to be associated and that is through the sympathetic nervous system. If there were no other illustrations of reflex irritation, the association just mentioned would,

perhaps, be a sufficient demonstration of its existence. It is quite possible that the enthusiasm and hasty judgment of some of the writers on this subject have carried them too far and that claims which have not been verified have influenced many to reject the theory of reflex irritation, but while the direct relationship between nasal abnormalities and reflected phenomena is not always evident, still it is beyond dispute that such relationships frequently exist, and unless this fact is acknowledged and the appropriate treatment applied, we cannot expect to be able to afford relief of annoying and perhaps health-destroying conditions, in a large number of cases.

By what nerve tracks this reflex phenomenon is brought about is problematical, nor is it a matter of sufficient importance to discuss here, but the fact remains that polypi or hypertrophy of the turbinated structures in the nasal passages do in certain cases cause asthma. Polypi occupy a causal relation in perhaps the majority of cases of asthma of nasal origin, but hypertrophied tissue may also cause it. It does not, however, necessarily follow that intra-nasal pressure will produce reflex symptoms. The sensitive areas in the nose vary somewhat in their location and it is possible that pressure upon the nasal septum from a swollen turbinate or morbid growth may be applied just outside of the edge of such an area. Nor does it follow that asthma is of necessity due to intra-nasal pressure for we are all aware of the fact that asthmatic attacks very frequently occur in subjects whose internal nasal contours and surfaces are in a normal condition, and this fact has been observed in so many cases that we are, of course, unable to accept the statement which has been made from time to time, and which was made again very recently, that asthma is always or nearly always of nasal origin. *Always* is a word which rarely finds a proper place in the development and effects of disease, and an observer must have had a uniform experience in a vast number of cases



before he would be justified in employing it.

In endeavoring to determine the etiological factor in a case of spasmodic asthma, we think it wise to eliminate first, diseases and disturbances of the thoracic, abdominal and pelvic organs, and if no trouble can be found in them, then the nose should be examined. Indeed, we are of the opinion that in the majority of cases of asthma, while there may be a hypersensitive condition of the mucous membrane of the nose, an underlying etiological factor will usually be found in a gross fault in elimination, in an existing diathesis or some organic disease elsewhere. It is, however, probably true that a hyperesthesia of the vagus nerve is present in asthmatic cases to make what is known as an asthmatic tendency, and that irritation anywhere at the periphery of a sensitive nerve may be reflected to the vagus to produce bronchial spasm. The mere fact, however, that there is a seemingly sufficient nasal abnormality can not, as I have already said, be accepted as of necessity causal, for it may be simply co-existent with a lesion existing elsewhere and which is really giving rise to the phenomenon of asthma or cough. And even if asthma is produced by turgescence of the erectile tissue in the nose, such erectile tissue turgescence may be, and indeed is likely to be, caused by transmitted vasomotor alterations from distant parts of the economy, so that for the relief of an asthma which is indirectly the result of swelling of the turbinates, we may find it necessary to investigate other and perhaps remote organs of the body. Nevertheless, it is true that not infrequently reflex peripheral irritation is directly from the interior of the nose, and while observers differ as to the location of the sensitive areas, we believe the fact to be that they vary somewhat in different individuals.

When multiple polypi are present in the nasal cavities of the subjects of asthma there can be little reason to question the relationship or the pro-

priety of removing the morbid growths, but when swollen tissues or sensitive areas in the nose are supposed to be the cause of asthmatic attacks, such tissues and areas should be subjected to certain tests in an effort to determine their relationship as far as possible. These tests are the application of solutions of cocaine or adrenalin to the seats of the supposed areas or swollen tissues, or the use of a probe upon the unanesthetized mucous membrane. Cocaine not only shrinks the tissues, but its immediate effect is to nullify the afferent impulses from the nerve endings in the nose; while adrenalin is applied solely to decrease the size of the swollen tissues and thus enable us to determine whether such tissues are the possible cause of symptoms by giving rise to pressure. The most gratifying discovery is made when either asthma or spasmodic cough are temporarily relieved by the removal of pressure, or asthma is increased or cough produced by contact of the probe with the sensitive spots.

Counter-irritation of the nasal mucous membrane has at times the apparent power of changing a nervous centre from instability to stability, and even if there is no actual disease in the nose a stimulus sent from that organ will often give relief to symptoms existing elsewhere. This knowledge is not new for it is related that the ancient Greeks, Hippocrates and Plato, were well aware that obstinate hiccough was curable by tickling the lining membrane of the nasal chambers.

So impressed are some of the workers in the field of rhinology with peripheral irritation of the nose as a factor in the etiology of asthma, that they have acquired world-wide fame because of the extraordinary series of successful results, to which they lay claim, through treatment applied to the nose. It is for the class of patients with no tangible lesions, except the so-called sensitive spots in the nose, that the application of the galvano cautery has been proposed for the relief of asthma, Greville MacDonald and



Alexander Frances of London, are perhaps the most enthusiastic advocates of this method of giving relief. That such treatment is of at least temporary service in many cases of asthma, there can be no question, and prompted by the brilliant reports mainly of the writers just named, this treatment is now being carried out not only by specialists but by practitioners who make no pretense of being expert in rhinological knowledge.

Frances's method consists simply in cauterizing the nasal septum opposite the anterior end of the middle turbinated body with the galvano cautery loop, and in the most recent announcement which I have seen, the number of cases of asthma which he had treated through the nose had reached nearly 600. Of those more than half were completely relieved, more than a quarter were more or less relieved, and in less than five per cent. were the results negative.

MacDonald's method consists in applying the cautery over the anterior angle of the triangular cartilage of the septum. This writer asserts that the galvano cautery is of value in relieving asthmatic breathing even when it is dependent upon a cardiac lesion. I can readily understand how temporary relief from such a cause could be secured by such means, but although I have occasionally given it a trial I have not yet obtained beneficial results. That, however, may possibly be because I have used it in advanced cases only when the distress in breathing was very great.

While our own results with the galvano cautery for the relief of asthma have been very much less gratifying than Frances's, we are far from disposed to abandon it, partly because of the relief which it occasionally gives and also because recent experiments upon the lower animals have demonstrated that stimulation of various areas of the nasal mucous membrane will produce spasm of the bronchial tubes which is not produced by stimulation of any other mucous surface of the body. We have seen many evi-

dences of the beneficial effects of treatment of the nose for the relief of asthma, but the difficulty is that except when gross lesions are removed the effect is apt to be temporary, and, indeed, it may be said that even after the removal of gross nasal lesions the relief may not extend over a period of more than a few weeks. Still, it is the patients who have definite nasal disease which may be removed by operative procedures, for whom the brightest hopes of relief, or even cure, may be held out.

We cannot lay too much stress, however, upon the care which should be taken in deciding to operate for the removal or destruction of seemingly diseased structures in the nose, for it is often extremely difficult to determine how far various conditions in the nose may deviate from the normal without giving rise to symptoms. When, however, we decide to attempt to relieve these neuroses by local measures we ought always to exercise the utmost care to convey a correct impression of our expectations in regard to the ultimate result, for even when relief or what may appear to be a cure is obtained the symptoms not infrequently reappear after a short absence. They may not return, but in the light of our all-too-many revelations we ought always to safeguard our statements. Then, too, we must not fail to take into consideration the exceedingly important fact that operative interference in the nose is sometimes followed by definite aggravation of the symptoms, for cicatricial tissue following operative work is sometimes, though perhaps rarely, responsible for an ultimate increase of the malady, and thus the last condition is made worse than the first. Many of us have seen some desperately sad situations established in this way.

In passing, permit me to say that the galvano cautery method once loudly proclaimed for the cure of that *bête noir* of the medical profession, hay fever, and now spoken of as a fiasco, is far from being devoid of merit. The reason for its failure was, no doubt, that too much was claimed



for it, and as those claims were not fully proven the whole pompous structure was brought to the ground; but in the ruins some gold may be found if we will but look for it. The superficial application of a flat galvano cautery loop to the anterior or posterior ends of the nasal septum made a month or so before an expected attack of hay fever, will, *in some cases*, mitigate or even prevent an attack; but the application may, and probably will, be needed every year. The best effects are obtained when cocaine is not used in order that the sensitive spots may be readily found. The idea of a white hot wire up an unanesthetized nose may not appeal to the patient as a pleasing incident, but, nevertheless, if the application is deftly made and is followed by relief, he may be able to look back upon it, in comparison with the misery of the disease itself, as having been almost a delight.

Perhaps it would be to little purpose if we should dwell further upon the relationship of the nasal cavities to asthma, for it is, without doubt, a subject more or less familiar to you all, but upon spasmodic cough reflected from the nose I feel disposed to lay some emphasis in this writing, first, because I believe that the relationship is not generally comprehended, and also because my experiences in this particular have been of a highly gratifying character. The mechanism of the causation of a cough of nasal origin is supposedly the irritation of the so-called "cough area of Mackenzie," and while almost any diseased condition of the nose may give rise to cough, I wish especially to call your attention to, and emphasize the frequency of the occurrence of, cough due to pressure upon the septum from the middle turbinated body. This is a highly interesting reflex relationship and can only be explained, in these cases, by the site of the reflex cough area upon the septum, happening to be directly opposite the middle turbinate, or perhaps in certain cases even in the turbinate itself. As has already been said the sensitive areas are found to

be fugitive and pressure must be made in different locations in different individuals to give rise to the same reflex symptoms. The appearance of the middle turbinate, in cases of spasmodic cough, which places it under suspicion as a possible causative element, is of importance. Irregularities of the surface of the nasal septum are so frequently met with that in many cases it is difficult or impossible to determine by the sense of sight just how much, if any, contact exists between it and the middle turbinate. Mere contact between these structures may give rise to sneezing, but rarely to cough. When, however, it can be seen that the middle turbinate is to any considerable extent flattened out against the septum, or when the contact cannot be seen but the turbinate is prominent and part of it is hidden by the septum, a test should be made to determine whether pressure really exists or not, and if it does, whether it is giving rise to cough. The first procedure should, therefore, be the introduction of a probe between the parts in contact, and if cough is excited or symptoms already existing are increased, a close relationship may reasonably be assumed. McBride reports a case in which violent cough was excited when the posterior end of the inferior turbinate was touched with a probe while the patient was entirely under the influence of an anesthetic. When this test is productive of positive results we are enabled to hold out the greatest hope of giving temporary, or, perhaps, even, permanent relief. If the test is negative then cocaine or adrenalin should be applied to the middle turbinate. When a patient is seen during an attack of either headache, asthma or cough, the application of cocaine may result in an immediate finding, that is immediate relief may be given, but in cases of reflex cough when cocaine is applied to the turbinate by the physician, the result is not necessarily conclusive, for during the few hours of its action it is possible that there would not have been a paroxysm of coughing. The only way in which the relation-



ship can be satisfactorily proven, is by maintaining the contraction of the tissues during two or three days, and this can be accomplished with a weak solution of adrenalin somewhat sparingly applied with an atomizer in the hands of the patient. If relief is wholly or in part obtained during that period it is safe to assume that there is a nasal factor at work, enough at least to justify the next step, which is that, suggested by Delavan, of puncturing the swollen tissues to relieve them of a sufficient quantity of blood to reduce their size. If this is immediately successful and yet after a time the symptoms gradually return, that part of the middle turbinate which is responsible for the pressure, should be removed. Singularly enough, however, I have not been obliged to resort to operative measures in even a half of such cases, for the contraction of the tissues for a few days or weeks, or the finding of the underlying cause of the swelling of the turbinate elsewhere in the body, has been all the treatment needed, for the turbinate turgescence did not recur.

While it is, doubtless, true that long continued use of strong solutions of adrenalin may give rise to arteriosclerosis and other serious conditions, recent experimentation goes far to discredit the early alarm about the dangers of that drug, and makes it quite clear that reasonable use of it is unattended with danger.

There is one class of cases of reflex cough, to which I wish to direct your attention, in which the causal pressure is made by a high deflection of the nasal septum upon a normal-sized middle turbinate; and I have been impressed with the number of such cases as compared with those in which there is sufficient swelling of the middle turbinate to make pressure upon a straight septum. If the subjects are adults, as they are likely to be, the ideal method of giving permanent relief, in such cases, is through the resection of the septal cartilage rather than by the destruction of a normal turbinated structure which is performing a valuable function.

The third section of this paper refers to the relation of the nasal cavities and the naso-pharynx to disorders of digestion, and for personal reasons I approach its consideration with no little hesitancy, for it is such a common relationship and we must perforce find and characterize it in so many cases that a number of the members of our profession have been impressed with the belief that the writer finds it when in their opinion it does not exist. Still, we think that we may at least be permitted to announce our belief even though we cannot compel its acceptance.

Either by continuity or by reflex action, disorders of digestion frequently make their impress upon the mucous membrane of the pharynx and nasal cavities in certain characteristic appearances which, in at least the chronic form, I find it quite beyond my ability to adequately describe. Indeed, I believe it would be almost as difficult of description as that of an expression upon the human countenance. Like sounds which must be heard to be understood so the pharyngeal hyperemia resulting from an indigestion must be seen to be comprehended. Long experience in viewing those parts will enable us to detect the diseased pharynges which are the result of gastric and intestinal irritation and differentiate them from inflammatory conditions due to other causes.

In the acute and subacute form of pharyngitis with an underlying cause in the digestive apparatus, the characteristic appearances of the throat readily admit of description. They consist usually of a deep red congestion of the entire posterior pharyngeal wall with little, or practically no congestion of the pillars of the fauces, tonsils and soft palate. The uniformly red or dull red coloring of the posterior wall in contrast to the normal, or nearly normal, coloring of the parts about it, framed in as it were by the surrounding relatively pale structures, makes a strikingly characteristic picture.

We cannot, of course, assert that disorders of the throat and nose re-



sulting from a gastrointestinal indigestion are really reflex neuroses and are not at times a part of the whole and the result of continuity through the walls of the œsophagus, but though we have made efforts to study this question at autopsies the rapid post-mortem changes which occur in that part of the alimentary canal have always made such observations of questionable value. A red tip and swollen nose which sometimes accompanies an acute attack of duodenal catarrh are probably not produced by continuity. An impairment of the innervation of the larynx resulting in the weakening, or loss, of the voice during an attack of diarrhœa is less likely to occur from continuity than through reflex irritation. My only contention is that in whatever way the relationship is established, though it seems more likely to be by reflex than by continuity, the association is very frequently met with and the improvement in the gastrointestinal disorder brought about by appropriate treatment will be followed by an improvement in the nasopharyngeal symptoms. That we should expect to effect a lasting improvement in a catarrhal condition of the mucous membrane of the nasopharynx which is dependent, or even partly dependent, upon a digestive disorder, without directing attention to the indigestion, is, it seems to me, quite as unreasonable as to expect to dry up a bubbling spring by bailing it out with a dipper. My experience has taught me that no matter how thoroughly we may beat about that bush with local measures alone, we will surely find no game.

The presence of hyperesthesia of the fauces as evidenced by the reflex movement of gagging when the tongue depressor, but more particularly the laryngoscopic mirror, is employed for examination, should call attention to the probable existence of digestive derangement. When the digestive disturbance is marked or the patient is an alcoholic even the cleansing of the teeth or opening of the mouth may cause gagging. In writing on this

subject a number of years ago the late Dr. Frederick I. Knight, of Boston, said that according to his observation this form of hyperesthesia would yield to a withdrawal of alcohol or a regulation of the diet without local measures.

There is, perhaps, no better demonstration of the intimate relationship of the upper air passages to the gastrointestinal tract than that of the abortion or cure of an acute rhinitis, pharyngitis or laryngitis through the administration of an alkali; and this is occurring constantly under our observation even when a rheumatic or gouty diathesis is not present. The analyses which Fisher of the Vanderbilt Clinic made at our request leave no doubt that there is hyperacidity of the secretions of the gastrointestinal tract during so-called head and throat colds, and almost numberless subjects have proven that a sudden and marked reduction of the acidity is alone sufficient to effect an improvement in, or cessation of, the acute inflammatory activity.

Some years ago Turck, of Chicago, employed what he called a gyromele for collecting secretions from the stomach, and subjecting such stomach secretions, obtained from the subjects of nasopharyngeal catarrh, to bacteriological examination he found that they contained the same micro-organisms as were found in the nasopharyngeal secretions, and, therefore, concluded that the gastric catarrh was due to the irritating nasopharyngeal discharges flowing into the stomach. He asserted farther that in such cases, without other treatment, the correction of the nasopharyngeal trouble by a laryngologist had cured the digestive disorders. I do not know that there has been any confirmation of Dr. Turck's experiments, but had there been, according to my reasoning, it could not have proven that the nasopharyngeal secretions were the cause of the gastrointestinal catarrh, for it follows of necessity that any bacteria flourishing in the throat must find their way into the stomach by the act of swallowing. Dr. Turck's reason-



ing places all the burden upon the throat and nose and does not admit the possibility of errors in diet, mastication, insalivation and elimination having anything to do with the nasopharyngeal catarrh. There is, however, in all probability, some truth in both of these contentions, for it is certainly reasonable to suppose that the secretions from the nasopharynx flowing more or less continuously into the alimentary canal will either excite a disturbance in that region or aggravate an already existing disturbance. In this way a vicious circle is established in that the digestive tract is irritated by the secretions from the nose and throat and the nose and throat are irritated by reflex action from the digestive tract, or directly from the eructation of the stomach contents. Then would not the ideal method of treatment be that which would be carried out by both gastroenterologist and laryngologist at the same time? Probably that would be the ideal plan, but in most cases it would be impracticable and if a choice must be made I am clearly of the opinion that the greatest amount of benefit can be obtained for the patient by the ministrations of the gastroenterologist, or the general practitioner acting as such, for our best results in those cases have been obtained when at least the main part of the treatment has been directed to the gastric and intestinal disorders.

Moreau R. Brown in writing on the relationship between acute catarrhal inflammation of the nose and throat and disorders of digestion says: "It has been in times past the custom to call to our aid the old theory of reflexes and it may not be unreasonable to suppose that these views are not entirely without foundation. It is a recognized fact, as so aptly put by M. Gross, that every affection of the stomach is reflected back on other organs, and inversely every disorder of the organs reacts upon the stomach."

Catarrh and dyspepsia, the two most common and prominent of what may, very properly, be called our national diseases, are largely due, as Mulhall

suggests, to our national bad habits, "But," the same writer adds, "the nation is young and will learn if we medical men will teach it." Again the same writer in an excellent article on "The General Health and the Upper Air Passages," has this to say about pugilists: "Most of them, as a consequence of a bar-room life, cheap cigars, over-eating, vast quantities of alcohol, and inactive life, suffer from chronic catarrh. If you will but take occasion to examine one when he has trained for a fight, you will find that his nasopharyngeal symptoms have disappeared. He no longer hawks and spits and suffers from stuffy nostrils. He has, through training eliminated all obnoxious material from the body and secured perfect vascular equilibrium." Perhaps we could learn a valuable lesson from that story if we would but heed it.

While the present pace of living in this country is, perhaps, more rapid than at any previous time, it seems reasonable to believe that there will be less need of, and therefore less demand for, the services of the gastroenterologist and laryngologist as a consequence of the change which has recently occurred in the personnel at the head of our national administration, for Schneider was probably not far from the truth when he said long ago that a large part of the cure for catarrhs consisted in "continuous bodily exertion and tranquility of mind."

If time permitted I would be glad to speak of many other relationships but I have occupied my share of the evening in considering a few of them with some degree of care believing that such a course would be more profitable than to touch lightly about the edges of many. In what I have said I wish it to be understood, however, that I profess to be writing from one standpoint only and that the same series of nervous phenomena of which I have spoken may be, and probably are, produced by reflex irritation from other portions of the body; that the factor is an ever changing one and the same group of symptoms seemingly



produced by the nose and throat in one individual may be induced in another by some other organ, and that while the nose and throat must be looked upon as factors of large importance in the production of reflex phenomena, they cannot be regarded as constant factors. When, however, the error of belief that they are constant factors finds lodgment in the mind of a special worker, as unfortunately it not infrequently does, it is apt to curtail his horizon and dim his powers of logical deduction. And this leads me to say as a concluding

word that while it is unquestionably true that in times past there has been too great a tendency for the specialist to limit his researches and observations to a narrow and circumscribed field, it must now be generally acknowledged that this tendency is, under the beneficent influence of a broadening knowledge, fast giving place to a wider point of view and he is learning that in order to succeed and obtain gratifying results he must, of necessity, and more than ever before, become a diligent student of internal medicine.

## THE RELATION OF OPHTHALMOLOGY TO GENERAL MEDICINE

By JEROME B. THOMAS, A.B., M.D.

Visiting Ophthalmologist to the Coney Island Hospital.

Assistant Surgeon to New York Eye and Ear Infirmary and Brooklyn Eye and Ear Hospital.

IT is said that Plato made the following observation: "The trouble with the physicians in our times is that they pay too much attention to men's bodies and too little to their minds."

It seems to me that I have heard similar criticism of the medical profession during recent years.

I have been accustomed to take some little pride in the fact that my Alma Mater was a pioneer in making bed-side instruction in the hospital wards a fundamental part of its teaching. Listen to the following epigram of Martial written about 1900 years ago, the scene laid in Rome:

"Languid I lay and thou camest, O Symmachus, quickly to see me.

Quickly thou camest, and with thee a hundred medical students.

The hundred pawed me all over with hands congealed by the north wind.

Ague, before I had none, but now, by Apollo! I have it."

Verily there is nothing new under the sun and after these preliminary quotations I have no hesitation in offering you for discussion even such a hackneyed subject as this paper

deals with. I confess to have had a strong inclination to choose a more striking topic—something dramatic, like the necessity for modern brain surgery in selected cases of choked disc, or the remarkable results achieved in many cases of tuberculosis of the eye-structures by tuberculin injections. But I believe that you take the maximum interest in a topic that concerns the majority of your members and I am sure that the writer derives greater benefit when he deals with matters that come mainly within his own experience.

Thirteen years spent in general practice followed by four in ophthalmology have combined to impress me with the fact that the eye does not receive the attention it deserves, as an objective aid to diagnosis in general medicine.

The danger of narrowness on the part of the eye specialist is well recognized and frequently discussed in our journals and before our societies, but the converse of the proposition has only begun to make an impression on the mind of the profession.

Is it not true that the general

\* Read before the Medical Club of Brooklyn, April 26, 1909.



practitioner knows too little of some of the special branches of medicine, but particularly of the eye? Poets are fond of alluding to this wonderful organ as the "window of the soul" but it is even more truly the window of the material body, and the student who learns to look into it, sees some of the bodies' deepest secrets, both physiological and pathological.

Perhaps it is a natural fear of tampering with this delicate organ that impels the physician to exclude it more and more from his attention, but at any rate it is true that he has come to regard the eye as the peculiar property of the specialist. At the conclusion of his student days, he passed (or didn't pass) a perfunctory examination on the eye and then relegated it to the same category with the ear and the larynx.

Now this state of mind is properly modest and praiseworthy under the present methods of teaching ophthalmology in most of our medical schools but it is none the less unfortunate that this inadequate instruction should result in the neglect of such a valuable aid to general diagnostics. The remedy I shall consider later. Permit me first to remind you of some of the diseases in which the eye may afford material help in arriving at a correct and often an early diagnosis.

*Lids and Conjunctiva.*—Edema of the lids is a manifestation of nephritis and inflammation of the tarsus may indicate syphilis, gout or tuberculosis. Catarrhal conjunctivitis with smarting and burning of the eye lids often accompanies intestinal auto-intoxication and other digestive errors.

The widely separated lids and staring eyes of Grave's disease are familiar to all but constitute too late a symptom to afford much aid in diagnosis. However, Dr. H. Gifford, of Omaha, has described a new ocular symptom occurring at a very early stage of that disease, before the appearance of goitre, exophthalmos or cardiac symptoms namely,

great difficulty in turning the upper lid, probably due to excitation of a small branch of the sympathetic and consequent spasmodic contraction of the palpebral portion of Muller's muscle. This symptom disappears later in the disease.

The phlyctenular form of conjunctivitis seen so commonly in children is such a sure indicator of improper feeding that in most cases regulation of diet promptly cures the eye manifestations without the necessity of local treatment. My stereotyped order in these cases is to discontinue tea, coffee and sweets and nature usually does the rest. A few of these cases are scrofulous and require appropriate treatment.

Diphtheria of the lids may accompany the general disease or may occur as the sole infection. In mild cases it may easily go undiscovered and serve as a source of infection to others.

*Cornea and Sclera.*—The cornea affords a most sensitive surface for the registration of the effects of mal-nutrition and faulty metabolism. Corneal ulcer, in the absence of trauma or a suppurating tear-sac to serve as a source of infection, suggests scrofula or the impoverished blood of chronic malaria.

Interstitial keratitis may be the only visible sign of secondary syphilis or it may constitute the local focus of a latent tuberculosis. It may be caused by scrofula, rheumatism or rachitis.

Concerning this form of keratitis it has been well said that the proper proportion of time to devote to the case is two minutes to the eye and two hours to the general condition.

*Ocular Muscles.*—The importance of double vision as a diagnostic sign is not sufficiently appreciated. It suggests paresis or paralysis of some of the ocular muscles and hence a probable involvement of the third, fourth or sixth cranial nerves, their muscles or cortical centres. It is estimated that 75 per cent. of these paralyses are due to syphilis and they emphasize the necessity of persistent and thoroughgoing treatment.

Partial paralysis of the third nerve evidenced by ptosis, dilated pupil and



perhaps lateral or vertical diplopia is a valuable early sign of tabes. The symptom-complex may be incomplete and transitory but it affords a warning and should lead to early treatment.

Ocular paralysis may afford valuable evidence in the detection of such rarer conditions as central and orbital tumors, arteriosclerosis, especially with small cerebral hemorrhages, and thrombosis of the cavernous sinus.

*Interior of the Eye.*—It is the interior of the eye as revealed by the ophthalmoscope that affords the most brilliant example of what the eye may contribute to general diagnostics.

Few men forget the beauty and wonder of their first successful view of the retina, with its glistening arteries and dark blue veins curving gracefully over the orange background. The head of the optic nerve dominates the centre of the picture like a rose-pink full moon in a copper colored sky.

Looking into the eye we may observe from day to day the course of such fundamental processes as hemorrhage and its absorption, the deposit of exudates and their resolution, the inflammation and slow degeneration of nerve tissue, and the earliest changes in vessels undergoing arteriosclerosis. Remember, too, that these observations are made with a magnification of nearly seventeen diameters and therefore include little vascular twigs invisible to the naked eye.

We are all familiar with the role played by albuminuric retinitis in the diagnosis and prognosis of nephritis. The detection and appreciation of the retinal changes are of even greater weight in view of the present belief that both renal and ocular complications of nephritis are due to a common cause—namely, a toxemia. In this connection, Dr. Charles S. Bull stated at the last meeting of the A. M. A. that “so long as the blindness of the retinitis of pregnancy was regarded as always associated with albuminuria and interstitial nephritis, doctors would run the risk of sacrificing eyes by not insisting on the induction of premature labor.” On the other hand it may be said that in the presence of

persistent eye symptoms one should not run the risk of sacrificing the patient’s life by waiting for the appearance of urinary signs.

Perhaps the most striking instance of diagnostic assistance afforded by the ophthalmoscope is in the observation of the earliest visible signs of arteriosclerosis, especially of the cerebral type. Instead of gaining our information from the feel of a large artery situated beneath layers of skin and fascia, we have spread before our vision, on the surface of the retina, a net work of the finest arterial and venous twigs. Changes in these minute vessels constitute a frequent and early sign of the general vascular disturbance. The smallest arterial twigs may have a spiral or corkscrew appearance and the larger ones may have lost some of their translucency so that a subjacent vein is no longer visible through the arterial coats. The retina is often slightly œdematous or hazy in spots. In the later stages the veins may be indented where the stiffening arteries cross them and still later may become dilated or beaded. The arteries and veins may have silvery white streaks along their borders as the result of perivascularitis. Small retinal hemorrhages may occur.

This condition of the vessels of the eye leads not infrequently to a form of asthenopia, occurring especially in middle life, that indicates treatment by diet and arterial sedatives instead of glasses (De Schweinitz).

The appearance of the head of the optic nerve may cast the deciding vote in many obscure conditions. The prominent and bulging nerve head known as “choked disc” means intracranial pressure and that usually means cerebral tumor. It is estimated that choked disc occurs in 80 to 90 per cent. of cerebral tumors and in a case that I followed closely two years ago the swelling of the nerve head was marked four months before the onset of other distinctive symptoms.

The cupped or excavated disc usually indicates glaucoma; high intra-ocular tension clinches the diagnosis and accentuates the warning.

In the majority of instances, the



pale nerve head of optic atrophy points to the existence of disease of the spinal cord, most often locomotor ataxia.

We may watch the development of tubercle in the iris or the deeper eye tissues; or the growth of a sarcoma or carcinoma slowly pushing the retina and choroid into the vitreous. The early recognition of these malignant ocular tumors is of the most vital interest to the patient because only by early operation can the surgeon anticipate metastatic deposits in other organs.

The pupil holds a mine of information for the intelligent observer. The significance of the Argyll-Robertson pupil is well known. Hippus, the quickly alternating contraction and dilatation of the pupil, suggests a disturbance of the nervous system—perhaps central.

Inequality may indicate a lesion of the iris or along the course of the reflex arc from iris to pons. The dilated pupil suggests paralysis of the third nerve, chronic glaucoma, blindness or mydriasis due to cocaine or the alkaloïds of belladonna. Many a thrifty pharmacist, by furnishing his patrons with eye lotions that contain a little atropin (that popular and dangerous cure-all of ocular therapeutics) adds to the enigmas of diagnosis that we are compelled to solve.

The contracted or pin-point pupil we associate with certain stages of tabes, with injuries or pressure on the cervical sympathetic and with the exhibition of the drugs,—opium, jaborandi and calabarbean and their derivatives.

Sluggish reaction of the iris to light is one of the earliest signs of iritis and when combined with other signs of irritation such as lachrymation or congestion of the globe should warn the physician as to the seriousness of the condition. It is in this very early stage of iritis before the formation of plastic exudate and adhesion of the iris to the lens, that treatment is most effective and neglect most disastrous.

*Phenomena of the Visual Field* should be more carefully observed because of the many decisive suggestions afforded by them. All physicians

should appreciate the significance of central scotoma for white and colors and should make the simple test where indefinite visual disturbance is complained of. This may be the only symptom of diabetes and should always suggest a uranalysis. It may be the beginning of tobacco or alcoholic amblyopia or may be the expression of auto-intoxication involving the optic nerve.

Dr. Ward Holden has recently called attention to the importance of central scotoma as an early symptom of multiple sclerosis.

The significance of complete homonymous hemianopsia is frequently appreciated by the general practitioner but small homonymous defects of vision are readily overlooked unless a careful examination be made. Dr. Edward Jackson recently reported three cases of indefinite disturbance of vision in each of which he was able to establish the central origin of the symptoms by finding homonymous quadrant defects of the visual field.

In acromegaly, disturbances of the field of vision are among the most significant signs of the disease in 58 per cent. of the cases. (Putnam.)

Contraction of the field of vision, especially of the nasal portion may warn one of the chronic, insidious form of glaucoma, and a suspicion of its presence may at least save the family physician from the disastrous mistake of treating a possible subsequent acute exacerbation of the disease as a cold in the eye or a neuralgic attack.

Contraction of the field of vision occurs in hysteria and when associated with amblyopia, deficient color sense and anesthesias of the cornea helps to constitute a very striking symptom complex.

#### *Conclusion.*

I have outlined a few of the diseases in which ocular symptoms afford a valuable aid in interpreting the phenomena of general disease.

Is it possible to give adequate instruction in the physiology and pathology of this organ in a course of ten lectures and perhaps a score of visits to the outdoor clinic during which



there is time for only a few attempts to use the ophthalmoscope? I believe not.

Germany, the birth-place of pathology, and ophthalmology, classes the latter among the major subjects in the medical curricula of her universities and requires the candidate in medicine to pass written, oral and clinical examinations on the subject. Should not most of our medical schools in the United States have a redistribution of the time devoted to instruction in the various branches of medicine? Let the ophthalmoscope take its place along with the stethoscope, and if necessary permit the student to use in mastering the former, some of the time he now devotes to listening for obscure and often unimportant heart murmurs. In the sister branches, perhaps the anatomy of the sphenoid or the coverings of an inguinal hernia or many another ancient and time-honored task might be given less prominence in the requirements to allow time to acquire skill in using an instrument that reveals to the student living nerve tissues, arteries veins and capillaries in health and the earliest stages of disease.

Is not major operative surgery, to which so much of the student's time is given, both in clinics and in lecture-room, more truly a specialty than the fundamentals of ophthalmology?

In as much as the eye clinics at most of our medical schools are too small to afford enough material for teaching the subject adequately, sections might be assigned to the public institutions supported by city or county where sufficient material may be seen and studied.

Let every student be as familiar with the tension of the normal eye-ball as he is with that of the radial artery. Such instruction will not make him an ophthalmologist, but it may lead him to the early detection of glaucoma, one of the most disastrous and treacherous diseases to which the eye is subject, and one in which early treatment is of the utmost importance.

Every candidate for a medical degree should have had an opportunity to observe iritis in its early stages, fol-

low its development and compare it with conjunctivitis.

It is not easy to differentiate these diseases in their incipency, and yet it is of great importance to do so in order to institute early treatment and thus avoid iritic adhesions and their unfortunate sequels.

At present it is a not uncommon practice among general practitioners to order atropin in these doubtful cases, and it may be argued with some plausibility that such treatment is better than to take any chances of neglecting a beginning iritis; however such hit-or-miss therapeutics should hardly be encouraged as a regular course of procedure, for if your case happens to be one of conjunctivitis, you aggravate the symptoms, and it by a rare chance you have to do with a case of glaucoma you add gunpowder to the flames.

If the conditions of practice in our small towns and the country were like those existing, for example, in New York city, where oculists abound and the people have learned to go to them directly for treatment of the eyes and the general profession are accustomed to consult with them where the eye can offer something in clearing up the diagnosis of a general disease, then my plea might lose some of its force. But the majority of our profession settle in small communities where specialists are rare or wanting altogether. To such physicians the knowledge gained by more comprehensive study of the eye, as I have suggested would clearly be of great practical utility, because they are thrown upon their own resources both in general diagnosis and in the recognition and treatment of diseases peculiar to the eye.

After a generation of medical students have received adequate instruction in ophthalmology as it touches general medicine, we may reasonably hope for a more general appreciation of the significance of hyperopia, astigmatism and imbalance of ocular muscles in the development of eye strain and the frequent sequel of reflex functional disturbances set up in other organs. When that time comes we may hope to hear no more of physi-



cians referring their patients to refracting opticians and department stores for the correction of ametropia with lenses. We shall have earlier recognition and treatment of trachoma, a disease which in spite of rigid inspection is flowing steadily into our seaports with every stream of emigrants from Asia and Southern Europe.

Myopia, which is becoming so prevalent among civilized nations that one can almost foresee the evolution of human being born with concave lenses in situ, at least may be mitigated by a clear knowledge of the conditions that foster its development and by a wide dissemination of such knowledge among parents and teachers.

My plan may sound impractical at

first and savor somewhat of the millennium, but I am convinced that the elevation of ophthalmology to its proper place in the medical curriculum is not only feasible but inevitable. Germany has led the way, as she so often does in the scientific and educational worlds, and her disciples will not long remain behind her. Indeed a few of our best schools have already taken steps in the right direction.

I don't plead for the education of all physicians into eye specialists, but for a closer study of the eye as a revelation of living physiologic and pathologic processes, and for the application to general diagnosis of many important ocular symptoms that now receive but slight attention from the student and the general practitioner.

## REMOTE RESULTS OF CONSERVATIVE SURGERY ON THE OVARIES\*

### A PRELIMINARY REPORT

By JOHN OSBORN POLAK, M.Sc., M.D.

BROOKLYN-NEW YORK.

**D**URING the last decade the wave of conservatism in pelvic surgery, has preserved to many of our women, portions of diseased adnexa, which might better have been removed, except for our ardor for conservatism, which has seized not only the surgeon and the practitioner, but the patient, who for sentimental reasons and the possibility of subsequent pregnancy, has often insisted upon the retention of a portion of her genital apparatus, pathologic though it be.

Do the end results justify the continuance of this conservatism? Hyde, in concluding his admirable and scholarly paper on this subject, says: "Pregnancy does not occur as often as thought, in fact, it occurs in not more than five per cent. of the patients operated on in this way." Again, all resected ovaries present the

possibility of a recurrence. His incomplete records show that about five per cent. return for subsequent operation. The avoidance of the artificially produced menopause, is the only result that resection can absolutely promise.

An analysis of 300 cases, occurring in my personal services, shows that forty-one patients, have returned for further operation, or over 12 per cent. of the entire number operated since 1900. by conservative methods, have required ablation of the remaining ovary, or the part of the resected ovary left, at the primary operation. Twenty-six pregnancies have occurred in the 240 women, who could have become pregnant, or in over ten per cent. of the women operated upon, which is a higher percentage of pregnancies than generally reported. One patient contributed there full term pregnancies, and two abortions to this list. This fertile patient, though in-

\* Read before the Brooklyn Gynecological Society, May 6, 1909.



cluded in a previous paper read before the Brooklyn Gynecological Society six years ago, is entitled to further mention, as she exemplifies a type in which conservatism may be used with some certainty of success.

I refer to the ovary which is the seat of a mono-cyst. This patient was eighteen years of age at the time of her primary operation, and had suffered since puberty from pre and co-menstrual dysmenorrhœa. Both ovaries were cystic and prolapsed, the left on section showed numberless small cysts throughout, and was removed. The right contained one large cyst the size of a lemon, destroying the entire cortex. This was resected by a wedge shaped incision, leaving only a fringe of the hilum, .5 cm. wide, and 2 cm. long. Both tubes were left undisturbed. This patient has been attended by me in all of her pregnancies. She has menstruated regularly, and while there is no enlargement of this remnant of ovary, it is tender and causes some pre-menstrual pain at each period. During the past year, the catamenial flow has become scantier, and the patient is beginning to complain of many of the nervous phenomena, which suggest an approaching menopause.

In all (except the forty-one returning for re-operation) an early operative menopause has been averted, and 106 women, or more than one-third of the total number, are free from menstrual or intermenstrual pelvic pain of any kind. These patients have been carefully examined repeatedly, and their pelvic findings recorded. In twelve of this number the "treated" ovary is larger than one would suppose it should be, but has occasioned no contiguous inflammation, and produced no symptoms.

Both ovaries were resected in eighty-one women by the excision of a wedge, which included the diseased structures. The ovarian wound was closed with a fine catgut suture, taking care to have all hemorrhage controlled, and dead space obliterated, with just sufficient tension to obtain co-aptation with constriction, which I believe to be the cause of many failures, as was

illustrated in two instances at the secondary operation, which will be cited later. One ovary was entirely removed, and the other resected after the method described above, in 219 of the women making the basis of this report.

It is interesting to note that seventeen of the twenty-six pregnancies recorded, followed ablation of one ovary, while the ovary producing the fertile ovum, had been extensively resected. Further, that as far as my pathological records can be followed, but two who were fortunate enough to become pregnant, presented multiple micro-cystic ovaries at the time of operation. This bears out a contention which I made on previous occasions, and concurs with Hyde's views, *i. e.*, that a micro-cystic ovary sufficiently diseased to cause pain or invalidism is better removed, as conservatism in this class is as Gordon wisely states: "Conserving the woman's health, not preserving a diseased organ."

The results of attempting to preserve a diseased ovary when it is the seat of multiple micro-cystic degeneration, is illustrated by the following case, which may stand for a type:

A. H., admitted to my service in the Jewish Hospital, aged twenty-three, married, sterile. She had always suffered from severe pre-menstrual dysmenorrhœa, which had become worse since her marriage. She also complained of a profuse mucopurulent leucorrhœa. The smear from the cervix showed gonococci. A median abdominal incision disclosed a double hydrosalpinx, with a cyst of the left ovary totally destroying the organ. Both tubes and the left ovary were removed. The right ovary presented a multiple cystic degeneration, the cysts varying in size, from that of a pea, to that of a bantams egg. The cystic portion was freely excised, leaving only a narrow strip of the ovarian hilum, apparently free from any cysts. Her post-operative recovery was uncomplicated.

On examination, one year later, she stated that her menses had recurred regularly, lasting two days, but were



of small quantity, preceded by severe pain in the right side, and swelling of the breasts for two weeks before each period, and that all marital relations had occasioned severe pain. On bimanual, the uterus was found in normal position, with its mobility limited on the right side, and posteriorly. The right ovary was the size of an orange, painful and adherent.

Of the forty-one patients who have returned for further surgery upon their adnexa, all but three present similar histories and findings. All resected ovaries swell and become markedly enlarged during the first month after operation, but this swelling gradually subsides under the influence of time, rest and the establishment of an equalized circulation. This latter can only be obtained by careful suturing of the ovarian wound, without constricting it, and by placing the resected ovary high in the pelvis, in order that the return circulation may be favored, and further, that it may be free from peritoneal contact, until such time as its wound is closed over, for peritoneal adhesions make painful ovaries. If the return circulation is impeded by the misplacement of sutures, the cystic formation is very rapid and extensive, as was instanced on two of my re-operations, which were done within two weeks of the primary section, and the remaining ovary found in the cul de sac, markedly cystic and adherent.

The primary section in one case had been made by one of my assistants, the other patient was operated by myself. Both tubes had been removed by a running suture along the top of the broad ligament, and the right ovary resected of several cysts by a wedge excision. The bleeding was troublesome, and in attempting to control it the circulation was interfered with by the too numerous insertion, and too tight application of sutures. The ovarian engorgement was further increased by the omission on part of the operator to suspend the uterus, in order to keep the resected ovary high in the pelvis. Too much can not be said on this point, the ablation of the tubes with or without the removal of

one ovary, will always shorten the broad ligaments, and so pull the uterus out of, and back of its normal position, or when one ovary and the tube are removed, the uterus will be drawn backward and to one side, unless counterbalanced by some procedure which holds the uterus in place.

On examination of these patients before dismissal from the hospital, we noted the uterus retroplaced and dextra-verted, and a large cystic mass the size of an orange in the right posterior cul de sac. On re-opening the abdomen it was seen that the sigmoid had become adherent to the anterior face of the fundus, the uterus was retroverted over a large cyst of the right ovary, densely adherent by fresh adhesions in the cul de sac. The size of the cyst surprised me.

The findings in the second patient was almost identical with those just described, the adhesions were freed and the ovary removed. Before closing the abdomen the uterus was suspended, the subsequent recoveries were uneventful. I am convinced from my secondary operation findings that many of the failures in resection procedures from cyst recurrence, or the occurrence of pain about the tumor, or on the other side, after one ovary has been ablated, is due to not securing the resected ovary high enough in the pelvis, keeping the wound surface free from omental-parietal, and intestinal adhesions, which may be obtained if the uterus is raised by some of the many retroversion operations. Even when a uterus is in normal position before operation, removal of part of the adnexa will shorten the broad ligaments, and will retrovert it in some degree, enough to start the vicious cycle. Both tubes were removed sixty times in the course of this series. When a double salpingectomy is made it is our custom to suspend the uterus, no matter what its previous position may have been. This step, we believe, does two things, minimizes the adhesions of the omentum and the intestines to the stumps, by encouraging adhesion to the parietal peritoneum,



and maintains the ovary in a better position for its circulation.

All of these operations were in child-bearing women. In 119 but one tube was ablated, and both tubes were left undisturbed in 121, leaving 240 women in which future pregnancy was a possibility. The tubes were ablated by excision of the uterine portion of the tube, by an elliptic incision about the tube into the cornua, excising the greater part of the intramuscular portion, and the free portion cut away. The muscular gap thus produced was closed with interrupted catgut sutures, and hemorrhage from the ligament controlled with a running suture along the top of the broad ligament, which technique, we believe, helps to retain the length of the broad ligament.

Notwithstanding this careful technique, one patient became pregnant in the cornua of the uterus, and developed an interstitial pregnancy, which has been reported elsewhere. This case has not been included in the report of the pregnancies following upon resection of the ovary, as it occurred in one of the sixty patients in which both tubes had been excised. No attempt was made to preserve any portion of a diseased tube by resection, or by the phimosi operation. When a tube was found diseased it was removed, as my former experience with conservative procedures on the tubes has been most disappointing.

A study of the class of ovaries resected, will perhaps lead us to conclusions which may be of value in our subsequent work. In 163 a pathologist's report is noted, and of this number, ten were simple retention cysts due to thickening of the wall of the capsule, resulting from long prolapse of the ovary. Three were treated by simple puncture with the cautery, with the following results: One is cured of all pelvic trouble. Two have tender and enlarged ovaries, though one of these women has been pregnant. The remaining seven were resected and have made perfect recoveries. Six were dermoids, from which the tumor was excised, and the remaining stump of the hilum pre-

served by careful suturing. One of these women has returned for reoperation for a unilocular cyst, developing from the retained fragment.

One papilloma, unrecognized clinically at the time of operation two years ago, subsequently developed a papilloma of the resected ovary, with papillomatous peritonitis-ascites, and hydro-thorax. This patient was reoperated, and has made a good primary recovery. Seven large multilocular cysts, varying in size from that of an orange, to that of a child's head, have been enucleated from their laminated walls, which were trimmed down and sewn over, leaving a resected portion of the ovary, 3 to 4 cm. long, and 1 cm. wide. No recurrence has taken place, the ovary has atrophied, menstruation has continued normally, and one pregnancy has resulted.

Forty-seven were cysts of the corpora lutea, which had increased the weight of the ovary sufficiently to make it prolapse, and cause menstrual and inter-menstrual symptoms, all were deeply resected and by wedge-shaped excisions. Thirty-six were free from pain, menstruate regularly and painlessly. Four have required further surgery, two have a small cirrhotic and painful ovary as a result. Five complain of menstrual pain, without any physical change in the organ.

Two primary fibromata of the ovary were enucleated from their capsules, the excess of which was cut away, and sutured so as to make a small mass of ovarian tissue. Both women have been lost track of. The remaining ninety belong to the class of multiple cystic ovaries, presenting numberless small cysts throughout the ovarian structure. Forty-five of this number were ablated, leaving one good ovary, while thirty-five were resected.

The extent of the involvement in each ovary was determined at operation, by an incision through the organ from cortex to hilum, laying it open for inspection, excising the entire cystic portion, and carefully suturing the remaining fragment with fine catgut. But five complete cures are recorded



twenty-one have returned for further surgery. Nine menstruate regularly, though the quantity has become scantier each year, and each period is attended with some degree of menstrual pain.

Two pregnancies followed resection in this class. It would seem, there-

fore, that multiple cystic degeneration was least favorable to conservative procedures, while ovaries containing retention cysts, cysts of the corpora-lutea, large mono-cysts, fibroids and dermoids, may be conserved by resection with considerable hope for the patients continued well-being.

## DEEP INJECTIONS OF ALCOHOL IN TIC DOULOUREUX.

By CHARLES WALDO STICKLE, M.D.

THERE can be no doubt in the mind of the physician that the pain of facial neuralgia is the most atrociously aggravating of all body suffering. Since time began this malady has existed and never any positively successful remedy which has had no harmful possibilities has been discovered, unless it be the intraneural injection of alcohol solutions.

The surgical measures thus far devised are the removal of the Gasserian ganglion, (Hartley), to me, the most intricate and formidable operation on the body, not infrequently followed by death; the Abbe operation for the division and avulsion of the nerve branches and subsequent plugging of the foramina with gutta-percha; the dissection of the various branches from their peripheral exits. All of these measures have been followed by complete, permanent relief—all have been followed by relief for one or two years—all have been followed by death, or complications, death to be preferred, or have failed completely to relieve the pain.

The causes of only temporary relief are, of course, the failure either to completely remove the ganglion or to thoroughly divide the nerve trunk, or the failure of the gutta-percha plugs to remain firmly in the foramina, allowing the severed ends to become united and consequently the regeneration of the peripheral nerve endings. In both these procedures the necessary resulting deformity is of no small consideration as well as the sensory, motor and trophic effects possibly con-

sequent upon the Gasserian operation. Therefore, it would seem to be desirable to submit to any means which may hold out a prospect of relief whereby these unfortunate but necessary changes will be avoided, before undergoing the major operations of resection or division.

The injection of various fluids into or around the nerve trunk, beyond its exit from the skull, has been practiced to a greater or less extent for a number of years. Personally, I have known of such procedure having been tried as early as 1892, with as far as known, good results.

Recently this method has been brought to general notice particularly through the efforts of Schlösser of Munich, who uses a diluted alcohol injected through the deep tissues of the face, attacking the various branches at their foramina of exit. Others have made their point of entrance through the mouth, (Ostwalt). I have regarded this mode of entrance as entailing more or less danger from possibility of infection, though I have made injections into Meckel's ganglion through the naris, through the spheno-palatine foramen, for the relief of a "tic" affecting the pharyngeal and palatine branches of the superior maxillary branch with beneficial results. This method was brought to my notice by Professor William Browning, who suggested reaching the ganglion through the naris for the relief of a pharyngeal and tonsillar neuralgia.

The method used was puncture



through the spheno-palatine foramen, after cocainizing, with bent needle and afterward carrying trichloroacetic acid on applicator through opening so made. This was followed by distinctly favorable results in two cases. In neither case was there any post-operative involvement of the facial nerve.

The injection of various fluids, subcutaneously, at the site of exit of the three branches over the supra-orbital, infra-orbital and mental foramina, also into the openings of these foramina into the peripheral nerve trunks, have both been tried with success more or less temporary in some cases, with complete failure in the majority. Among the solutions used for these methods has been osmic acid 1 per cent. to 2 per cent., reported used by Billroth in 1884, which certainly, at least in some cases, gave complete permanent relief as far as observed, but in the greater number of cases has failed except possibly for very temporary cessation. This solution has also been reported to have caused the unfortunate result, necrosis of soft tissue and also of bone. Solutions of other drugs and chemicals have at various times been used with reported results more or less contradictory.

The injection of various fluids into the deep tissues has been experimented with for some years. Recently, it is the evident consensus of opinion that a more or less diluted alcohol is the best medium for attack.

In the first injection made by the writer a .05 aqueous solution of cocaine was used, with complete cessation of all pain for at least four months when case was lost to observation. I afterward used a 10 per cent. solution of chloroform, containing  $\frac{1}{2}$  grain of cocaine to the ounce, with apparently the same result. This case having a relapse after two injections into or near the foramen rotundum, within three months. I then used a 50 per cent. solution of alcohol in water with the addition of  $\frac{1}{2}$  grain of cocaine to the ounce. Relief had been complete after observation for seven months. The amount of fluid

injected in these two cases amounted to about one c. c.

This solution was used on several cases with more or less varying results until the solution of Patrick and Hecht came under my observation, which I have continued to use as follows:

Rx

Cocaine Hydrochlor . . . . .gr. I.  
Chloroform . . . . .m X to XX  
Alcohol . . . . .dr. III.  
Aq. Dist. . . . .q. s. ad. oz. ss.

M.—

The *modus operandi* described by Levy and Boudouin, with the exception of a few minor details, is the one employed by the writer and seems the best available description of the method which should be followed in making these injections for at least the first time, viz.: "A strong needle, 10 cm. long and 1.5 mm. in diameter is used, to which is fitted a stylet like a trocar, save that the needle is sharp and the stylet is blunt. The needle is marked in centimetres up to five, so that the operator may know at what depth the point is. In performing the puncture the stylet is withdrawn slightly, so that the skin is pierced by the sharp point of the needle.

"When the point is well through the skin, the stylet is pushed in, so that its end projects from the needle point; thus the remainder of the penetration is done with a blunt instrument, and injury of the deep vessels is avoided. At the proper depth, when the needle has reached the foramen in the skull, the stylet is withdrawn, the syringe, ready filled with the solution, is fitted to the needle, and the injection is slowly made. The needle is allowed to remain in situ for a couple of minutes, to prevent bleeding; if any hemorrhage occurs it is controlled by a few minutes pressure.

"When the injection is made into the trunk of the nerve, a burning pain occurs, followed by a sense of pressure or tension, in the area of distribution of the nerve. This is succeeded, if alcohol alone is used by two or three hours of severe pain,



followed by anæsthesia as above described. If cocaine is added to the solution, the pain is very slight. Sometimes there is diffuse headache. Slight œdema of the eyelids on the affected side may follow an injection into the upper or middle divisions of the nerve, whilst, after injection into the third division, there may be slight trismus in the masseter and pterygoid muscles. In addition, injection into the second division sometimes causes a slight paresis of the facial muscles, due, perhaps, as Kiliani suggests, to the connection between the spheno-palatine ganglion and the facial nerve. This facial weakness passes off within from three to fourteen days.

"To reach the foramen ovale, through which the third division of the nerve emerges from the skull, the needle is inserted through the cheek behind the last upper molar, at the lower border of the zygoma,  $2\frac{1}{2}$  cm. in front of its descending root (which is always palpable, almost coinciding with the anterior border of the external auditory meatus). The index finger of the operator's left hand may be inserted into the mouth behind the last molar, as a guide, though this is not essential. The blunted needle is now pushed through the deep tissues (comprising the masseter and the posterior part of the temporal muscle) backwards and slightly upwards, until it impinges on the periosteum of the external pterygoid plate. It is then pushed on, under the periosteum, upwards and backwards until the base of the pterygoid is reached. It is now pushed backwards and more upwards until it enters the foramen ovale, at a depth usually of about 4 cm. The stylet is then withdrawn and the injection made.

"To reach the foramen rotundum, through which the second division emerges, is less difficult. We take as our guide the posterior border of the orbital process of the malar bone, prolong this line to the lower border of the zygoma, and insert the needle

$\frac{1}{2}$  cm. posterior to this point. Pushing horizontally inwards, and directing the point slightly upwards, the foramen rotundum is reached in the floor of the pterygo-maxillary fossa at a depth of about 5 cm. at a level, with the inferior extremity of the nasal bones. The structures traversed by the needle include the anterior fibres of the masseter and the anterior edge of the temporal tendon, though this latter may be avoided if the patient opens the mouth. The supra-orbital or ophthalmic division emerging from the skull through the sphenoidal fissure, is more difficult to reach with safety, owing to the proximity of the optic nerve and of the third, fourth, and sixth nerves. According to Patrick and Hecht the nerve is more often missed than reached by the needle; but though it is desirable to reach the nerve trunk, it is not essential, since the alcohol injected near the nerve diffuses so as to reach it.

"The needle is inserted into the orbit just at its outer margin, close within the fronto-malar articulation, and is passed along the outer wall of the orbit to a depth of  $3\frac{1}{2}$  or 4 cm."

The method of the writer differs from the above in that he has always used a sharp needle not over 6 cm. in length without stylet, for injection into all branches, making the entrance through the skin with sharp-pointed bistoury. It has seemed to me that by so doing, it is more likely to obtain a penetration to within the nerve sheath, this being preferable to depending upon the diffusion of the alcohol through the deep tissues and nerve sheath, as may ensue from the use of the blunted needle, though from reports, this occurs and is apparently as effectual as positive penetration.

I suppose it is doubtful whether the branches are positively reached and the sheath penetrated, although I have never been satisfied to operate and not receive the characteristic symptoms of nerve irritation viz., the more or less brief spasm of pain following the course of that particu-



lar branch, succeeded by the tingling, numbness, then anæsthesia over the surface supplied by that branch. This spasm of pain, in some patients, is simply momentary, in others, is bitterly complained of for hours.

The ecchymosis and swelling following these injections varies greatly. In the greater number of cases there is neither.

The trismus following injection into the second and third branches is sometimes disagreeable, many times rather persistent, but is never more than a temporary inconvenience.

One difficulty I have encountered in injections into third branch, is finding the ramus of lower jaw displaced upward and behind the zygoma, allowing the latter to overlap. This is overcome by having patient open mouth and placing rubber gag between the teeth, thereby holding steadily in position while the injection is made.

Notwithstanding the fact that in thirty-eight operations with this procedure I have had practically perfect results, some of them seemingly of the most desperate character, two of which had undergone the removal of the Gasserian ganglion, one other upon whom had been made the Abbe division, I can not help at each time being astounded at the results accomplished by this simple means of relief from the most atrociously aggravating form of pain with which the human race is afflicted.

If the relief is but temporary, lasting but a few months, it is a boon to mankind, compared with the jeopardy to life, resulting deformity and possible failure, accompanying the major surgical procedures to which most of these sufferers gladly submit sooner or later during the course of their tic douloureux.

Taking into consideration the fact that subsequent injections, in cases of relapse, are as effectual as the first series, I can not see how we can decide but that we are positively prohibited from considering any other

means, surgical, until we have positively proven that the injection method is useless.

Relief is what we demand: we want it with the least trouble—least pain—or least possibility of sequelæ?

130 Montague Street.

## GALL BLADDER SURGERY.

*Abstract from a paper by Dr. Howard Lilienthal.*

Embarrassment due to the surprises of abdominal section becomes less frequent with experience. Obtain permission for any necessary procedure rather than be too certain as to the exact nature of a contemplated operation.

Examine stomach contents before operations upon the bile passages.

When symptoms point to gall-bladder and the viscus is found apparently normal at operation, no disease of other organs being discovered, better do cholecystectomy.

Gall-bladder may be found completely embedded in the liver.

Thick walled gall-bladders are liable to cancerous degeneration.

When there is suppurative pericholecystitis gall-bladder should not be removed primarily.

In cases of profound sepsis with or without jaundice perform quick cholecystostomy and do the radical operation later, thus dividing the work into two stages.

Always examine the pancreas and the pyloric region.

Technique: First, avoid, as far as possible, gauze packings. They damage the peritoneum, rendering it more susceptible to infection and they also cause adhesions.

Second: Common duct may be reached more easily after the gall-bladder has been removed by drawing stump of the cystic duct into view by means of traction sutures.

Third: These tractors are useful in finding the bleeding place in recurrent hemorrhage.



## LONG ISLAND MEDICAL JOURNAL

A Forum for the Discussion of all Topics involving the Medical Profession and especially that of Long Island.

EDITOR-IN-CHIEF

PAUL MONROE PILCHER, A.M., M.D.

ASSOCIATE EDITOR

JAMES MCFARLANE WINFIELD, M.D.

EDITORIAL OFFICE:

386 GRAND AVENUE, BROOKLYN, N. Y.

Further Information on advertising page 3

OCTOBER, 1909.

### DR. FREDERICK A. COOK.

DR. FREDERICK A. COOK has always been known to his friends and professional associates as a man of undoubted courage, fearless, yet gentle and unassuming. Those who know him most intimately are staunchest in his support.

He was for a number of years an active member of the Associated Physicians of Long Island and is now an honorary member. His achievement in reaching the North Pole has been accepted by the profession of Brooklyn, and in congratulating him, they expect in the near future to tender him a banquet at which shall be represented committees from all the important medical societies of the city.

We congratulate Dr. Cook, especially that his attitude in the Peary-Cook controversy has been in keeping with the dignity of the profession which he represents. We believe no man could bear himself with such gentle dignity, accepting the plaudits of learned bodies and at the same time know he was living a lie.

The statement made by Peary to an Associated Press correspondent at Battle Harbor, Labrador on September 14th, defines his (Peary's) attitude:

"I am the only white man who has

ever reached the North Pole, and I am prepared to prove it at the proper time. I have already stated publicly that Cook has not been to the Pole. This I reaffirm, and I will stand by it, but I decline to discuss the details of this matter. These will come out later. I have said that Dr. Cook's statement that he had reached the Pole should not be taken seriously and that I "have him nailed" by concrete proofs to support my statement. In six months you probably will get the whole story. It would not be policy for me to enter upon a full debate with the subject as it now stands. To do so I would be giving out much information of which other uses could be made. I intend to wait until Dr. Cook has issued his full authorized statements. Up to the present time there have been only newspaper accounts of Dr. Cook's alleged Polar trip, and these may or may not be accurate. When Dr. Cook has time to issue a complete authorized version of his journey will be the proper opportunity for me to make public the information which I have. After that the jury—in other words, the people and the scientific bodies of the world—will pass judgment on the matter, and there will then be nothing left of Dr. Cook's case but his own assertions that he has reached the North Pole. In the meanwhile, it is my determination not to deal with debates, for the reasons already stated."

The feeling of the public at the present time is summed up in the *Literary Digest* of September 25th, as follows:

"Although the press must necessarily suspend judgment on the final questions of fact involved, the tide of editorial sympathy seems to have set strongly in favor of Dr. Cook, owing to Commander Peary's delay in submitting the evidence on which he bases his amazing charge of fraud. In the beginning it was recognized that the circumstances of Dr. Cook's unheralded and almost unwitnessed feat put the burden of proof upon him, and there was much popular dissatis-





DR. FREDERICK A. COOK.

faction over his failure to submit his evidence. But since Commander Peary's assertion that his rival 'has simply handed the public a gold brick' the press have become even more impatient for the facts which he is hold-

ing back. It is argued that the burden of disproof now rests upon Peary."

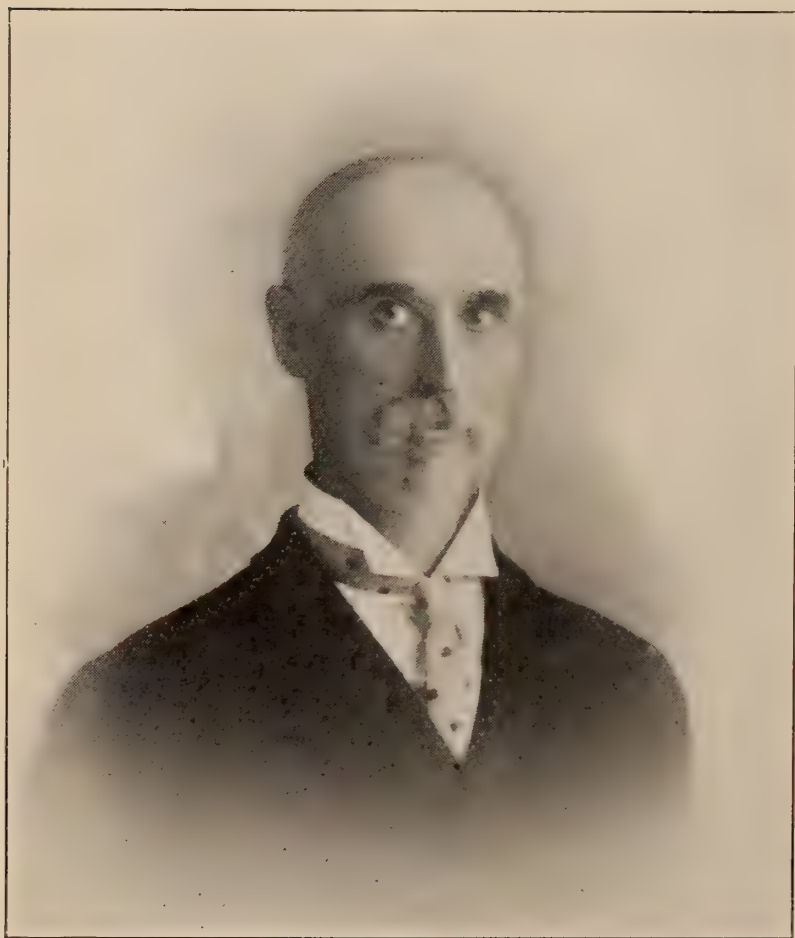
Our respect for Peary has been greatly diminished by his undignified attitude.



## MATTHEW STUART CALDWELL.

MATTHEW STUART CALDWELL, M.D., whose death occurred at St. Francis Hospital in the Bronx, Tuesday, July 6, 1909, was the son of Matthew and Mary Shields Caldwell, of Ontario, Canada. He was born September 8, 1848, and received his education in the public schools of Ontario, at the Toronto Normal School and at Victoria College. Like many others of later years, young Caldwell came to Long Island as a school teacher and was connected with the public schools for several years.

In 1876 he commenced the study of medicine under Dr. J. H. B. Denton, of Freeport, as his preceptor, and was graduated from the Medical Department of the University of the City of New York in 1879.



He served as Interne in the Jersey City Hospital for one year and began his active practice in the city of Brooklyn, at the corner of Throop and Willoughby Avenues. After three years of city practice, he removed to Far Rockaway in 1885, where he built up an extensive and lucrative business, becoming the leading practitioner of that place, and for nearly twenty-five years enjoyed the respect and confidence of his patients, neighbors and brother physicians.

Dr. Caldwell had been a member of the Queens-Nassau Medical Society since 1894 and of the Associated Physicians, from its organization in 1900.

He had been connected with the Bushwick and East Brooklyn Dispensaries, and, at the time of his death was President of the Medical Board of St. Joseph's Hospital at Far Rockaway. Previous to the consolidation of Far Rockaway with the Greater New York, Dr. Caldwell held the position of Health Officer of that village, and subsequent to consolidation was a member of the Health Board under the city government.

In May, 1883, while living in Brooklyn, Dr. Caldwell married Miss Emily Frances Twibille, of New York City, who, with two sons, Harold L. and Kenneth S., survives him.

Dr. Caldwell was a prominent member of Olympia Lodge, F. and A. M., and was also connected with Court Rockaway, Foresters of America. The cause of death was an unresolved pneumonia, with pleuritic effusion and empyema, for which an operation, done a short time previous to his death, was unavailing. His funeral was held from the Gardner Cottage, Bayswater, on Friday, July 9th, in accordance with the Masonic ritual. A loving husband, an indulgent father, a true physician and a faithful friend has passed to his reward.

J. S. C.



## MEDICAL NEWS.

EDITED BY JAMES M. WINFIELD.

**Coney Island Hospital**—The following doctors have been appointed attending physicians at the Coney Island Hospital:

### SURGERY.

*Consulting Staff*—A. T. Bristow, William F. Campbell.

*Visiting Staff*—C. H. Fiske, J. P. Murphy, A. H. Bogart, C. E. Lack.

*Assistant Visiting*—Russell Rome, E. B. Wilson, Edward Hynes, H. M. Calvin.

### MEDICAL STAFF.

*Consulting Staff*—Glentworth R. Butler, Joshua M. Van Cott.

*Visiting Staff*—C. H. Hall, P. I. Nash, R. Beyington, J. B. Hegeman.

*Assisting Visiting*—D. S. Pettes, Andrew Gillan, John A. Kane, J. J. Wagner.

### GYNECOLOGY.

*Consultants*—John O. Polak, S. J. McNamara.

*Visiting Staff*—John C. McEvitt, E. H. Mayne, Henry Mills, William H. Rankin.

*Assisting Visiting*—Victor Robinson, E. H. McVean, Fred Alpers, John J. Sheehy.

### PEDIATRICS.

*Visiting Staff*—Judson P. Pendleton, John P. McQuillan, F. B. Van Wart, Sigmund Beck.

*Assisting Visiting*—L. T. Aitken, M. W. Henry, W. H. Whiton, E. H. Marsteller.

### OBSTETRICS.

*Visiting Staff*—Leo J. J. Commiskey, R. H. Prentiss, Donald McNaughton, Albert H. Griffiths.

No Assistants.

### EYE.

*Consultant*—T. C. Hancock.

*Visiting Staff*—F. L. Tucker.

### EAR.

*Visiting Staff*—Warren Shattuck, Lefferts McClelland.

### NEUROLOGY.

*Visiting Staff*—Frederick Tilney.

### GASTRO-ENTEROLOGIST.

*Consultant*—Dudley Roberts.

No Visiting.

**Nassau Hospital of Mineola** has appointed a bacteriologist and opened two wards for the reception of patients sent in by the Island physicians.

Roswell Eldrege, Esq., has presented the hospital with a new automobile ambulance.

**Methodist Episcopal Hospital of Brooklyn**—Two new buildings have been added to the hospital and the older pavilions are being remodeled. This gives the hospital a capacity of 225 patients and 70 nurses.

**Bayside Hospital**—Ground was broken on August 20th for a new hospital at Bayside, Long Island.

**East New York Dispensary**, at 131 Watkins Street, Brooklyn, is being rebuilt at a cost of \$25,000. During the last year and a half the attendance has increased from 4,000 to 23,000.

**Dr. LeGrand Kerr**—Under date of September 7, 1909, Dr. LeGrand Kerr received a communication from Dr. W. J. V. Deacon, Assistant Chief Inspector of the Kansas State Board of Health, requesting that Dr. Kerr send at once an outline of his treatment of cases of anterior poliomyelitis during the recent Brownsville epidemic. It is stated in the letter that there is at present an epidemic of the disease in the northwestern part of Kansas, and the State Board of Health propose to use every possible means for its control. Every advantage was taken of the recent epidemic for a complete study of the cases (about 200 in all), and in this Dr. Kerr was ably assisted by representatives from the Rockefeller Institute.



**Osteopathic Physicians**—Justice Crane, of Brooklyn, has recently handed down a decision denying the Society of Osteopaths an injunction against the Board of Health in the matter of signing death certificates. In his decision the Judge said that the new code specified that the death certificate must be signed by a physician holding the degree of Doctor of Medicine, consequently "osteopaths" did not come within the law.

**The Annual Outing** of The Norwegian Hospital Alumni Association was held Wednesday, August 11, 1909, at Port Washington, Long Island. The trip was made in a large sight-seeing automobile. Dinner and supper were served at Bradley's Port Washington Hotel. A feature of the day was a closely contested baseball game between teams selected and captained by Drs. Coughlin and Moore, the former team winning after an interesting struggle by a score of 17 to 15. Umpire, Dr. W. C. Schoenijahn.

**Board of Health Building**—The new Board of Health Building, situated on Willoughby Street, is rapidly approaching completion.

**Hudson-Fulton Celebration**—Among the physicians of the Medical Service Board of the Hudson-Fulton Celebration the following members of the Associated Physicians of Long Island were numbered: Dr. G. M. Muren, Dr. J. C. McEvitt, Dr. D. F. Lucas.

**The Late Dr. George M. Beard**—Miss Grace Alden Beard, 675 Flatbush Avenue, Brooklyn, would be grateful if any member of the Associated Physicians having in their possession any books, pamphlets, manuscripts or letters written by her father would communicate with her regarding the same.

**Dr. J. H. B. Denton**—The news editor is happy to report that Dr. Denton, of Freeport, has fully recovered from his recent severe illness.

**Dr. F. H. Cook**, the arctic explorer, and for a number of years an active and now an honorary member of the Associated Physicians, claims to have discovered the North Pole a year in advance of Dr. Peary.

**Dr. Shirley N. C. Hicks**, of Jamaica, was shot by a neurasthenic patient whom he was trying to prevent from committing suicide. The doctor's wounds are not dangerous.

**Dr. William F. Swalm**, for many years a practicing physician of Brooklyn, died at his home at Shelter Island, August 27th, aged 72 years.

**Dr. H. Radcliffe Crocker**, the eminent English dermatologist, died in Switzerland, August 22d. A number of Brooklyn physicians had the pleasure of meeting Dr. Crocker when he was attending the New York meeting of the International Dermatological Society in 1907.



# TRANSACTIONS

## OF THE

### BROOKLYN PATHOLOGICAL SOCIETY

*494th Regular Meeting, May 13, 1909.*

The President, J. O. POLAK, M.D., in the chair.

Edited by C. G. CRANE, M.D.

#### RESECTION OF THE ULNAR NERVE.

Dr. W. L. DUFFIELD stated that the patient is 22 years old. When 7 years of age he sustained a dog bite at middle of outer border of dorsum of left forearm, followed by numbness of dorsum of little finger. In October, 1905, received a lacerated wound in palm of left hand over head of fourth metacarpal bone. Following this injury, little and ring fingers were somewhat contracted and numb. About two years ago he first noticed a lump on inner side of arm immediately above condyle (internal), which increased in size very slowly until a few months ago when the increase became very rapid.

When examined on the 23d of April a soft cystic tumor four inches long and two and one-half inches in width was found at the above location. The tumor was somewhat movable, the overlying skin freely movable, and there was slight tenderness on deep pressure over the anterior surface of the growth. Examination of the forearm and hand showed complete motor and sensory paralysis of all structures supplied by the ulnar nerve and anesthesia of smaller areas supplied by the musculo-spiral. The anesthetic areas were decidedly cooler than the remainder of the arm. The areas of anesthesia are pictured on the patient's arm, and I would call your attention to the atrophy of the thenar and hypothenar eminences, also of the spaces between the metacarpal bones.

On April 27th a vertical incision was made over the tumor and the mass separated from the muscles

and fascia, during the course of which the tumor ruptured and about four ounces of thick creamy pus escaped. This portion of the nerve was simply a very thin-walled sac. In the fascia surrounding the mass were several nodules strongly suggestive of tuberculosis. As the nerve was traced upwards it was found to contain a cheesy material in its center, of the same character as the nodules, until within a short distance of the axilla where it was sectioned. Below the process extended to a point between the olecranon and the internal condyle where it was again sectioned, ten inches of the nerve being removed. A cigaret drain was introduced at the lower angle of the incision and remainder of wound closed. The healing was satisfactory, no inflammatory reaction.

A bacteriological examination of the pus showed it to be sterile, no bacteria could be demonstrated by culture or otherwise and it contained very few pus cells. An examination of the nerve tissue revealed inflammatory changes not tubercular.

#### OSTEOMYELITIS OF FEMUR.

Dr. WARREN L. DUFFIELD presented the following case history:

E. A., 15 years old. In November, 1907, fell and struck right knee. Three days later was seized with a chill followed by fever. The following day the knee became painful, tender, swollen, and he was unable to move it. While confined to bed with the injured knee, he suffered from exposure and contracted acute articular rheumatism which affected



both wrists, right shoulder, knee and ankle joints. He recovered from the rheumatism but the right knee remained swollen but not painful, though it was slightly tender and reddened. Two weeks prior to his admission to the Jewish Hospital on May 4, 1908, a small abscess appeared at inner side of thigh, ruptured and was discharging freely when he entered the hospital.

On May 13th, the sinus opening was enlarged, the femur found to be bare and considerable pus evacuated. An incision on the outer side of the leg evacuated considerable pus, containing the staphylococcus aureus. At this operation it was deemed best to drain the abscess and at a later date remove the dead bone. On May 28, 1908, the packing was removed from the original wounds and dead bone curetted away. Both condyles were found to be involved and counter-openings were made for drainage. On January 8, 1909, the femur was again curetted.

Prior to his admission his leg had become flexed and a posterior dislocation of the tibia produced. This flexion was overcome by continuous traction.

It was the speaker's intention when the case was turned over to him on April 1, 1909, to make an effort to remove the remaining dead bone and resect the knee joint, but an X-ray plate showed considerable involvement of the entire lower end of the femur and consent to amputate was obtained. This involvement was very much greater than we expected to find as the parts were not at all painful, very slight tenderness existed over a small area and the temperature had been normal for weeks. A small sinus existed in the popliteal space.

On May 12, 1909, the lower end of the femur was exposed and the condition shown in the specimen seen. An amputation in the middle of the thigh performed.

This case is presented because of the opportunity afforded to show the plate and bone side by side.

#### SUPRAPUBIC PROSTATECTOMY.

Dr. WARREN L. DUFFIELD reported the following case:

M. S., 58 years of age, Russian, tailor, admitted to the Jewish Hospital on April 17, 1909, with the following history: No previous illness, denies all venereal disease, habits sedentary, bowels regular, does not use tobacco and only a very moderate quantity of alcohol with meals. No frequency of urination, except as hereafter described.

Was perfectly well until three days prior to admission when he was awakened at night by a sharp burning pain in region of bladder; he tried to void urine, but was unable to do so. Before the onset of this illness he was in the habit of urinating two or three times a day and once or twice at night without pain or discomfort. Did not pass any urine for the three days before entering the hospital. Patient was very thin, nervous and suffered constantly with severe pain in the bladder. A digital examination of the rectum revealed a moderately and uniformly enlarged and firm prostate. A sound passed into the bladder met no obstructions and revealed no stones. By catheter forty-four ounces of urine were obtained, acid in reaction, containing some pus and a considerable quantity of blood. A cystoscopic examination by Dr. Paul Pilcher showed an enlarged prostate and a body resembling a stone. He was kept in bed under treatment until April 28th, when a suprapubic prostatectomy was done. The bladder was first irrigated until clean, the catheter allowed to remain, and then with the patient in the Trendelenberg position a suprapubic opening was made. The table was then lowered and a search made for the stone, but none could be found. A very old and organized blood clot was probably the object seen with the cystoscope. A vertical incision through the bladder wall was then made over the right lobe of the prostate and with the right hand in the rectum



pushing the prostate high up in the pelvis this lobe was readily enucleated by the fingers of the left hand. A second vertical incision was made over the left lobe and this was removed in the same way. There was only a moderate amount of hemorrhage which was readily controlled by hot irrigation. A rubber tube was sutured in the suprapubic wound which was removed on the fourth day and patient allowed out of bed on the fifth day. Bladder irrigations daily after forty-eight hours. He passed some urine by the urethra on the third day and the quantity thus passed seems to increase daily, though the suprapubic wound has not as yet closed. This case is of interest because of the rather sudden onset of obstructive symptoms and because of the ease with which the prostate was removed without apparent injury to either the urethra or the ejaculatory ducts.

**VESICAL CALCULI, WITH PROLAPSE OF ENTIRE BLADDER, UTERUS, VAGINA, AND A PORTION OF RECTUM.**

Dr. CHARLES H. GOODRICH stated that this patient, a woman 63 years old, was admitted to the Methodist Episcopal Hospital a week ago and gave a history of having been sick for twelve to fourteen years. The condition of the patient at the time of admission to hospital was too bad to permit of operative procedure. Her pulse was irregular, arteries sclerosed, heart action uncertain, and it was a question whether he would undertake any operative measure or not. The operation was done yesterday. She had the most severe form of prolapse of the vagina and rectum and uterus he had ever seen. The protrusion was the size of the average adult head. In the bladder were found 103 calculi weighing a total of 128 gm. The undertaking was no slight one to relieve her of the calculi and cure her proidentia.

He first separated the bladder from the uterus and removed the lower third of the uterus. On the anterior vaginal wall which was entirely outside the body he made a large diamond-shaped

denudation, and when the denudation was complete made an incision over the central part and removed the calculi, washed the bladder, sutured it and left a permanent catheter in the bladder. Next, the diamond was sutured in three layers, submuscles, muscular and mucous. Then it was possible to reduce the mass and perform an extensive denudation of the perineal muscles. He managed to get a fairly good perineum and thought she would have a fairly good support. Subsequently he intended to fix the uterus between the pelvis and anterior abdominal wall, which he thought would give her a cure of her condition.

**PERINEAL PROSTATECTOMY.**

Dr. CHARLES H. GOODRICH said that the specimen he presented was removed from a gentleman of 67, a large, stout man, who came to his service at the Methodist Episcopal Hospital with a typical history of enlarged prostate, which could be made out through the rectum. He had nine ounces of residual urine with a total capacity of fourteen ounces. He was having so much pain that stone was suspected as a complication of his enlarged prostate, and it was determined by a searcher after he was anesthetized for operation.

The operation was done by the perineal route, and the prostate removed easily, much after the manner of Young. The stones were removed by enlarging the opening in the urethra laterally and withdrawing them from the bladder with forceps.

The particular interest in this case was because of the size of the stones. The reason for reporting it was because of the infrequency with which writers on enlarged prostate speak of the complication of stones in enlarged prostates. In 40 to 45 per cent. of the cases some stones will be found.

**PRELIMINARY REPORT ON THE BACTERIOLOGY OF GONORRHOEA.**

A paper was read by N. P. RATHBUN and T. H. DEXTER.

Dr. A. MURRAY agreed with the writers of the paper that the only way



to settle the question whether a gonorrhœa is cured is by the use of cultures. The mere absence of pus or bacteria under the microscope means nothing. There were one or two points in the paper that he wanted to speak about. The first was the kind of culture media used. Neisser says that Wertheim's medium is the best for the cultivation of the gonococcus. This consists of meat extract, peptone agar with human serum. Loeffler's medium is a good one but his objection to the Board of Health tubes was that they were usually too dry. The gonococcus requires a good deal of moisture. The fact that a gram-negative diplococcus grows or does not grow on plain agar does not mean much, as far as he could see. It all depends upon the reaction of the medium and the virulence of the organism.

Different strains of gonococci set in different ways and attenuated organisms will grow on almost any medium. The writers of the paper did not state the reaction of their media. A reaction of 1.+ to phenolphthalein works well, although Wolstein found that the medium might be faintly acid, neutral or faintly alkaline without making any particular difference. Another point, the speaker said, is the length of time which elapses between taking the specimen and making the culture. After thirty minutes the chances for growth are small.

Another interesting point is the action of the gonococcus towards the different sugars. While the gonococcus, the meningococcus and the micrococcus catarrhalis look very much alike under the microscope, they act differently with certain of the sugars.

The gonococcus ferments mannite, dextrose, dextrine and levulose but not maltose. The meningococcus ferments dextrose and maltose but not levulose while the micrococcus catarrhalis has no effect on dextrose, maltose or levulose. It would be interesting, the speaker said, if the writers in continuing their investigations, would try out these sugars with a known

gonococcus and also with the gram-positive diplococcus which they found.

Stein, in the *Wiener klinische Wochenschrift*, has some interesting facts along the same lines as the paper of the evening.

He found that the gonococcus can be demonstrated culturally when no longer found with the microscope. The gonococcus disappears from the shreds in the urine in proportion to the concentration of the urine.

In making cultures it is very important to wash the sediment and shreds in water in order to destroy the inhibitory effect of the urine. Lastly, even if the shreds are apparently free from organisms the gonococcus can often be found by cultural methods.

Dr. THURSTON H. DEXTER said the first medium used was agar and ascitic fluid; with that the ordinary health department beef-blood serum was used. One was a soft, moist medium, and while the gonococcus grew on that, it appeared to grow more readily on the health department media. That being easily available media, and because the organism appeared to grow well on it, it was subsequently used for the primary cultures.

The medium used was alkaline. It might be that the moisture supplied by the prostatic fluid was sufficient to overcome the dryness of the ordinary medium supplied by the health department. It might be also that the few drops of urine, which, in most cases, escapes with the prostatic fluid, might supply the required acidity to the media. He was inclined to believe that they grow fairly well on media of various degrees of alkalinity and acidity.

The method had the advantage of simplicity and availability. They heated an ordinary slide thoroughly, and on cooling held it under the pendant urethra while the prostate was massaged, and two or three drops obtained of thick prostatic fluid, sometimes a rather thin fluid, and frequently a drop or two of urine mixed with it. That was dropped from the slide into culture tubes, the upper portion of which was heated and cooled



before the material was emptied into it. There was no delay in the time of obtaining the material and planting of the cultures. The incubation was made in a few hours.

#### INDICATIONS AND CLINICAL NOTES ON THE BIER HYPERAEMIA TREATMENT.

A paper with the above title was read before the Society by EDWIN H. FISKE, M.D.

Dr. ADOLPH BONNER thought there was so much in the treatment that this paper ought to impress fellow practitioners that there is a great deal in it. It struck him that the simplicity and efficacy of the treatment was against it. If you tell a man if you tie a bandage around the arm, you will get the various results spoken of it sounds like a dream. The simplicity of the technic is against it, because men will not give it the attention it deserves. There is a great deal, the speaker said in the technic of the application of the bandage.

His experience extended over ten years with this treatment, and working with Dr. Willy Meyer, who was the first to introduce this treatment in this country, he had a good deal of experience and experience with patients in dispensaries below the average intelligence, and yet in a short time they were able to get a good deal of benefit.

As to the theory of its action, there are a great number of things which are in question to-day, and Bier himself has not stated a great many theories.

The first thing that was done was the treatment of tubercular joints by Bier's method. That was the primary step, and in that there is nothing more remarkable than to see some of the results obtained. Cases which would have required resection of the joints with subsequent loss of function recovered entirely. Nine years ago a fireman came to the clinic with a tubercular wrist. They treated him for ten months with the Bier treatment, and he got an absolutely perfect result, so that he could go back to the service. Of course the speaker

said, pus must be emptied; that is the primary thing.

Many times when the treatment is used it alleviates pain. This is the first sign you will find. Bier says if pain occurs in the treatment it is the fault of the man who applies the bandage. The bandage must not be applied too close to the lesion or pain will be produced.

As to where the cups are useful and where the bandage and hot air is useful. The bandage is best in acute conditions. The hot air is best in chronic conditions supervening or following very acute ones.

As to the length of incisions, he does not make long incisions, but after the method of Bier makes a number of short incisions with a great deal of space in between and does not use any drain. Five or six hours after the bleeding has stopped he takes off the dressings and applies a cup large enough to suck the breast in. That is used for three or four minutes. Rest is taken, the suction released, and the same procedure applied three or four times. He had never used the cup twice a day. In gonorrheal joints where the pain is extreme you see the gratification of the patient after you apply a rubber bandage.

The important thing in the Bier treatment is that joints instead of being immobilized are permitted to be perfectly free, and the patient is encouraged to use the part affected as much as they can. That seems to lessen the possibility of stiffening.

The hot air in chronic conditions for absorption holds true from what Bier says and their own personal experience. They do not wrap the limbs in bandages when using hot air except in thin persons. If the leg is covered they do not cover the toes. They do not want perspiration to accumulate about the limb. The efficacy of the treatment is to get dry heat, and for that reason they do not apply cotton.

During the first few years he treated everything with Bier's treatment. It has its limitations, and



those who have a few years experience with it will find it is one of the most efficacious measures. It does not do everything. Surgical procedures must not be forgotten, but they are not called for as often as when you do not use the Bier treatment.

Dr. HENRY F. GRAHAM said the Bier treatment was contraindicated in diabetes. He had used it recently

in an infected foot where the man had 4 per cent. of sugar in the urine. The infection came from an infected corn. He is completely cured.

Dr. EDWIN H. FISKE said the existence of atheroma and diabetes are supposed to be contraindications to the application of the bandage and cup, but not the hot air applications. The contraindications he gave were generally considered to be such.

## TRANSACTIONS

OF THE

## BROOKLYN GYNECOLOGICAL SOCIETY

*Stated Meeting, May 7, 1909.*

The President, H. C. KEENAN, M.D., in the chair.

### HYSTERECTOMY FOR TRAUMATIC RUPTURE OF UTERUS.

Dr. J. O. POLAK presented a specimen and stated that the patient from whom it was removed was 25 years of age. She had been married nine years and had had three children. Her last labor should have occurred on April 14th, but pains did not set in until early on the morning of May 4th, at which time the membranes ruptured, she had been in active labor from early in the morning until seen by a physician at 9 o'clock and up to that time the head had not engaged, and though the cervix was not fully dilated, she was anesthetized and an internal podalic version done. The delivery was complicated by a difficult extraction. The extraction terminated by a sudden easing up of whatever was holding the after coming head and a living child was delivered. The physician was again called hurriedly to see the patient at 12 o'clock for seeming heart failure, and he then sent for Dr. Humpstone who diagnosed the rupture of the uterus. She was sent into the speakers service at the Jewish Hospital, and on admission at 7 o'clock the condition was as follows: She had an immense abdominal distention, but only moderate tension; we could map

out the hard tumor of the uterus; and get dulness in both flanks. The pulse was 140. She had all the appearances of internal hemorrhage. Immediate hysterectomy was done and the specimen showed a rupture extending up on the left side of the uterus through the broad ligament and into the peritoneum. The abdominal cavity was fairly filled with blood. The stomach was immensely distended, and he did a rapid hysterectomy from which the patient rallied promptly. At the present time she has a pleurisy at the base of her right lung, but her general condition outside of this is very good.

### ABSENCE OF EXTERNAL OBLIQUE MUSCLE.

Dr. J. R. TAYLOR said he operated on a young woman 28 years of age for appendicitis, and because the abdomen was exceedingly fat he elected to avoid the incision through the sheath of the rectus externus to the median line and attempted to do a McBurney. To his surprise he found, after going through the skin and superficial fat, that there was no evidence of the external oblique muscle. There was a very fair layer of the internal oblique, but no visible trace of the transversalis. The tissues had



apparently been replaced by fat. So far as the operation was concerned it was carried through in the usual way, and the woman made a good recovery.

In reply to a question the speaker said that the woman did not have a lax abdomen.

#### *Abstract of Discussion.*

Dr. C. JEWETT said he remembered a case in which he witnessed an operation for repair of the damage which had followed an appendectomy; the operation for removal of the appendix had been done within two or three years, and a second operation was done to repair a hernia. There were a large number of perforations in the fascia, and the operation was a complete failure. The woman is in the same condition to-day with several perforations in the fascia. That was explained probably by injury to the nerve fibres in the first operation.

#### **ECLAMPSIA IN A PRIMIPARA, CESAREAN SECTION, RECOVERY.**

Dr. A. A. HUSSEY reported the following case:

Mrs. L. M., aged 19, born in United States; primipara, admitted to the obstetrical service of the Brooklyn Hospital, at 2.15 A. M., April 14, 1909.

*History.*—Family history, negative.

*Previous history.*—Children's diseases. Always well and strong.

*Menstrual history.*—Normal.

*Present condition.*—Pregnancy dates from September 1, 1908. Has been complicated by daily headaches coming on about 10 A. M. and lasting two or three hours. In other respects patient has been well. She has had no digestive disturbance, has been unusually free from nausea and vomiting. There had been no edema.

On the day of the attack, patient felt as well as usual. She went to bed early and remembers nothing more until 48 hours after the operation. Her mother states that she had a convulsion about midnight, and a second before the ambulance arrived. She had a third while being received at the hospital.

Examination on admission showed some edema of face and eyelids, skin flushed, mouth bleeding from lacerations of tongue. Her temperature was 99 F.; pulse, 124, regular, small and hard; respirations, 24. She was unconscious, but restless and could be partly roused from her stupor.

*Abdominal examination.*—Uterus pregnant, fundus half way between ensiform and umbilicus. Position, L. O. A., head not engaged. Fetal heart, 130, regular and strong.

*Pelvic measurements.*—Interspinous, 22 c.m.; Intercrestal, 26 c.m.; right and left obliques, 20 c.m.; external conjugate, 18 c.m.

*Vaginal examination.*—Perineum sound, vagina small, cervix high, canal not obliterated; admits one finger.

*Urinalysis.*—Catheterized specimen; color, dark sp. gr. 1018, acid, large amount of albumen, boils solid, great many granular, epithelial and blood casts.

*Treatment.*—Morphine grain  $\frac{1}{4}$  and nitroglycerine grain, 1-50 were given by hypomagnesium sulphate was given by mouth; a hot pack and hot saline colonic irrigation were given simultaneously. During the two hours following admission the patient had two severe convulsions. At 5 A. M. she was taken to the operating room and delivered of a living baby by abdominal cesarean section.

*Post operative history.*—One hour after operation the patient rested quietly. Her temperature was 99, her pulse 120, soft and regular. During the next twenty-four hours her condition improved slowly but constantly. Her mind remained clouded, but she could be roused sufficiently to take fluids by mouth. There was no restlessness. The pulse remained soft. During this period she passed 12 ounces of urine—containing four grains of urea to the ounce. The medical treatment following operation was energetic. It consisted of two ounces of magnesium sulphate by mouth, a hot colonic irrigation every three hours, hot packs, morphine by hypo for restlessness, nitroglycerine,



grain 1-50 given two hours or oftener for tension. Twenty-four hours after operation the patient became restless and got out of bed when the nurse's back was turned. Her restlessness increased during the morning and about noon she had a moderately severe convulsion. After this the sedatives were increased. Chloral, grs. xv. and bromide of soda, grs. xxx. were given by rectum every four hours until the patient was well under their effect. A second slight convulsion occurred about eighteen hours after the first. This was quickly controlled by inhalations of amylnitrate and oxygen. This was the last convulsion. From this time on the patient improved rapidly. The excretion of urine increased to 100 ounces per day containing four grains of urea to the ounce.

On the third day the patient became rational. Milk came in the breasts about this time. The breasts were emptied by the pump until the eighth day, as it was not deemed wise to allow the baby to nurse until time had been given for the elimination of the poison from the mother's blood. After the eighth day she nursed the baby successfully.

From a surgical point of view the convalescence was uneventful. Her temperature never was above 100 2-5. degrees. Her wound healed by primary union. She sat up on the 14th day. She was discharged on the 20th day.

Condition on discharge.—General condition good. Breasts sound, secretion abundant. Abdominal wound healed, scar firm, 4½ inches long. Uterus small, normal position, freely movable. Appendages normal.

Urinalysis.—Urine amber, 1016, acid, faint trace of albumin, many fine granular casts, urea 8 grains to ounce. Daily amount of urine, 50 ounces.

Baby weighed 4 pounds 7 ounces, was strong and healthy.

Dr. F. C. HOLDEN thinks he would have performed a vaginal instead of an abdominal cesarean as the vaginal route offers the best chances for the mother in these cases.

The woman was toxic, therefore not

in good condition, which coupled with the fact that the fetus was very small, only four pounds, was not evidence enough to justify the assumption that the child would live. The speaker does not think an abdominal operation justifiable unless one is more positive than one could have been in this instance that the child would survive.

Vaginal cesarean could have been done very readily and the chances of a living child almost as good as by the abdominal route and the amount of traumatism to the mother with such a small child almost nil.

Dr. A. A. HUSSEY in reply to a question said there was more bleeding than usual after cesarean, but it was not more than he wanted the woman to have, copious bleeding being the quickest way to eliminate the poison.

The speaker did not agree with Dr. Holden. If Dr. Holden could prove to him that an abdominal cesarean under the conditions he cited, subjected the woman to any increased risk, he would then admit that the vaginal cesarean section would have been the proper operation, because, although the woman was a primipara and her pelvis was small, there was no disproportion; the child would have come through. But he thought the chances of a living child much better with the abdominal route. He knew the child was living before he operated, and, personally, given a woman in good condition, uninfected, and with good operative facilities, he had to be convinced that the abdominal cesarean section bears any more shock than the vaginal cesarean. He thought comparisons rather unfair because so far as he could learn by looking up the literature, abdominal cesarean has been done but infrequently in these cases and usually as last resort operations, when, of course, it is not indicated.

Dr. C. JEWETT said in the case reported the child was small, and it would have been easy to do a vaginal cesarean section. Halbertsma he thought first proposed abdominal cesarean section in eclampsia. The ma-



ternal mortality was about 12%. Vaginal cesarean section, he thought, offered a better prognosis for the mother.

Dr. HUSSEY said that his reasons for doing the abdominal section were, the baby was alive, the mother was in good condition; had only been examined once per vagina, and, therefore, supposedly not infected; and it seemed to him that abdominal section gave the baby a better chance with no apparent increased risk for the mother. As this accorded with the religious belief of the mother and family the abdominal route was chosen.

#### END RESULTS IN THREE HUNDRED RESECTED OVARIES.

A paper with the above title was read by John O. Polak, M.D.

##### *Abstract of Discussion.*

Dr. C. JEWETT said that the writer of the paper had referred to Dr. Hyde's paper. That paper, he thought, dealt with conservative work on both ovaries and tubes, and he believed that it is especially in conservative work on the tubes that the results are not very satisfactory as favoring future pregnancy. Statistics show that plastic operations upon the tubes are followed by pregnancy in only 5%. He knew no reason why conservative work on the ovaries should destroy the chances for future pregnancy, especially when one ovary is left untouched.

Webster says, with reference to recurrences in the cases he has operated on, that they have occurred in 5% and, in 5% of the cases in which the abdomen was re-opened later, he found adhesions.

The speaker had not found it possible to say what proportion of cases in his own experience had been followed by recurrence. The majority have been hospital cases and it is impossible to trace any of them after they leave the hospital.

With reference to the position of the ovary, he thought it important, a point we are apt to overlook in these operations, that the prolapsed ovary

be suspended. It sometimes will be found more prolapsed after operation than it was primarily.

Dr. PAUL PILCHER said that patients often requested that a portion of the ovary be saved. In the simple cystic ovary it had been his experience that where a resection had been done, after a period of a year or so in almost all the cases there have developed symptoms, which would lead us to suppose that there had been some return or redevelopment of the condition. It seemed to him that the original pathological process was such, that we are almost bound to have a recurrence of the condition of a simple cystic ovary unless the ovary itself is removed. In one case he had in mind, the patient returned and was reoperated on twice. Finally a complete cure was secured, and the ovary itself was not removed.

There are three forms of ovary, the speaker said, which are oftentimes resected; one the small cirrhotic ovary, in which in his mind resection does absolutely no good; the second is the enlarged multilocular cystic ovary, in which resection does temporary good; and the third is the ovary in which there are large momolocular cysts, in which resection can be done with an assurance of cure. It has always been his principle, if it was possible, to preserve at least a portion of the ovary.

In the technic of the operation, he thought the most important point Dr. Polak had brought out had been the suspension of the ovary after the operation, that is bringing the ovary well out of the pelvis and suturing it in position. Another point in the technic is, if possible, the bringing down of the omentum posterior to the uterus and placing it between the sigmoid and the uterus and ovaries which have been raised and suspended. His experience with resected ovaries had been very satisfactory, and very seldom in young child bearing women, had he removed both ovaries. We have the records of 150 cases of our own on which to base an opinion.



Dr. C. JEWETT stated that what Dr. Pilcher had said reminded him of a point made by Webster, which is perhaps of some service in determining, as near as we can clinically, what course to pursue in operations upon the ovary. In cystic ovary, if the cysts are few, superficial, rounded and detached, they are generally enlarged normal follicles, and usually no resection is required. On the other hand if the cysts are grouped together in irregular masses and found throughout the gland they should be resected or the gland extirpated. The ovary may be split for examination if necessary.

Pozzi at the recent meeting of the American Gynecological Society laid down the following rules concerning resection and extirpation; If one ovary is sarcomatous he holds it is not necessary to remove the other ovary in a young woman if the latter ovary is macroscopically sound. Even in suspected carcinoma of one ovary it is not always imperative that the other be extirpated but the patient must be kept under observation. Generally resection of a beginning growth in the second ovary is permissible in

preference to extirpation only in retention cysts, fibroids and dermoids.

Dr. J. O. POLAK said that the paper of Dr. Hyde was the one he read before the Woman's Hospital Society, which dwelt upon resection of the ovaries, as a result of personal communications. Statistics on the subject, the speaker said, are very unreliable and very unsatisfactory. He had the statistics of 1,970 ovaries from 200 operators in this country, but the kind of ovary resected, and the detail of their procedure was omitted in most of the communications. The number of pregnancies following resection as well as the type of ovary resected is also omitted in the majority of these reports, and it was for that reason he analyzed these cases, trying to see if there were any definite conclusions that we might come to.

One other point that interested him in this analysis was the fact that in none of these reports of 1,970 cases could he find that there were resections of any dermoids, and in his own series he found that he had resected six dermoids and that these dermoid resections had been practically the most successful he had.

## TRANSACTIONS

OF THE

## BROOKLYN SURGICAL SOCIETY

*Regular Meeting, April, 1909—(Continued).*

The President, C. H. GOODRICH, M.D., in the chair.

### EXTRA-UTERINE PREGNANCY.

Dr. RANKIN reported a series of cases.

#### *Abstract of Discussion.*

Dr. R. W. WESTBROOK said the point Dr. Rankin made about waiting in cases of ectopic gestation was of importance. In his experience he had seen a lower mortality from waiting, whereas years ago we used to operate on them immediately, and a considerable percentage of these rup-

tured ectopics died. Since adopting the waiting policy, if the pulse, after the patient is well saturated with morphine, shows the hemorrhage is not going on and making blood examinations at short intervals, the mortality has been much lowered. He strongly suspected it would be better if many of these cases were not operated on at all, and believed the mortality would be lessened in many cases where there was a reasonable certainty the fetus was dead and a complete rupture had



occurred. He believed where death does not occur quickly from severe hemorrhage, that the hemorrhage usually ceases spontaneously.

Eight weeks ago he was called to see a case in South Brooklyn, where a woman had been taken with extremely severe symptoms at midday, which had increased very much, so that when he saw her her pulse was running at 140 per minute. She had all the symptoms of hemorrhage and her pain was excessive. Vaginal examination revealed a large mass of clot in the cul-de-sac. He gave her  $\frac{1}{2}$  grain of morphine and sent her to the hospital. They watched her closely. The patient was so markedly exsanguinated, that he had no thought of operation if it were possible to avoid it at the time. Her pulse slowed down well after some hours, and they watched her closely for several days. When her condition was considerably better they broached the subject of operation, which she did not want. He examined her a few days ago, and the large mass of clot is very largely absorbed. The uterus is again movable and the patient is in excellent condition.

Some French writer has reported a number of cases treated without operation, the speaker said. The average duration for absorption of the clot is seventy days, and the mortality has been practically nothing. While one must be sure there is a complete rupture and the fetus is dead he thought that kind of treatment would be advisable in a considerable proportion of selected cases.

Dr. J. C. MACEVITT said that formerly a gynecologist did an immediate operation in ectopic under the belief, he presumed, at that time, that the hemorrhage was active. It is rare, he stated, that you will find an active bleeding at any time that you operate for ectopic. Not long ago he had four ectopics in one week. It has been his custom for a number of years to wait, but in waiting it is well to consider the pathology of ectopic in this sense, that many of them are due to simple tubal abortion, where the

hemorrhage is not very great. Tubal abortion takes place at six to eight weeks, hence the blood vessels are not large and the hemorrhage not great, but it would be well in considering an abortion to take into view the time of gestation. If after the twelfth to sixteenth week the vessels are so large the hemorrhage may possibly be great. Where the rupture is in the ampulla, the hemorrhage is greater.

If a case came under his observation where the patient was exsanguinated and weak with air hunger, he would not hesitate to operate, because this shows an active hemorrhage is going on, yet he has never met active arterial bleeding when he opened the abdomen. Actual statistics show those cases left, the mortality is not as great as those operated on.

We must consider when we see these cases, the speaker said, that it is twenty-four hours or longer after the inception. If called in in a case after a few hours with the patient in good condition, he would not hesitate to operate, because the active bleeding would be controlled at once.

Dr. M. FIGUEIRA said he had been reading the reports of those gentlemen who did not operate, and he found Kelly in his last book does not give this advice. He says operate in all cases. All the authorities are not on the side of waiting, and then again some of these cases die while you are waiting, so that when in doubt, for his part, he operates in spite of all this new teaching.

In regard to not operating at all, when Dr. Skene was alive the speaker had a case of ectopic well marked, and he advised operation. The patient refused. Dr. Skene was called in consultation. He coincided with him and confirmed the diagnosis. This case was left to itself and died of septicemia within three weeks. The speaker thought in not operating at all one runs a great risk of septicemia, especially as there is inflammation in these cases to start with. Disease in the fallopian tube has been present at some time or other, and when the



tube ruptures the germ of inflammation may go with it.

Dr. W. S. SIMMONS wanted to know if in cases of ectopic where examination is made and there is a large mass found posteriorly or lateral to the uterus, if that is not in a great majority of cases a tube ruptured into the broad ligament, and where the hemorrhage will in time cease of itself. The cases he had seen that had been most disastrous had been where no tumor was found in the pelvis with the whole abdominal cavity filled with clots and blood. Where evidence of hemorrhage is going on, he thought it would be wise to operate.

Dr. W. B. BRINSMADE said that in Dr. Rankin's case the pulse was not above 115 and there were no signs of active hemorrhage, and both Drs. Westbrook and MacEvitt were glad to get their cases into the hospital where they could be watched every minute. It seemed to him that it was a dangerous teaching to go out from this society; that cases of ectopic pregnancy might perhaps be neglected with impunity.

Dr. R. S. FOWLER said in these cases three points are to be considered; one, whether there is a tubal abortion, in which case immediate operation is not imperative; whether a hemorrhage into the broad ligament, in which also immediate operation is not imperative; or whether there is a rupture into the general peritoneal cavity, of which case the general surgeon sees most. With rupture into the peritoneal cavity, immediate operation should be performed. He has not lost a case in which this rule has been followed. Of tubal abortions and pelvic hematocele the gynecologist sees the larger number. Practically all cases require operation.

Dr. C. E. LACK stated that he was compelled to wait in one case to make a proper diagnosis, and the patient was operated on five weeks after the original abortion. Nevertheless had an earlier diagnosis been made, it seemed to him the patient would have stood a better chance of recovery. The pa-

tient did recover, but under great stress. Active bleeding was going on five weeks after the actual rupture without positive symptoms of extra uterine pregnancy.

Dr. C. H. GOODRICH said that in his opinion Dr. Fowler had tersely arranged these cases as they should be. At the same time ruptures into the broad ligament can again re-rupture. He thought of two cases in which that occurred, and thought re-rupture may send into the peritoneal cavity either sterile or infected clot, so that it seemed to him long waiting even in these cases was not justifiable. We have to remember, also, he said, that the older a clot is, the more easily it is infected.

Dr. LEWIS S. PILCHER said that the pendulum seems to be swinging many years back. One who had not been familiar with the history of these cases from a large number of experiences, after listening to what had been said by some of the speakers would rather get the idea that a ruptured ectopic was not a very dangerous thing, that upon the whole it was a thing which might be looked upon as not a surgical emergency, and one rarely requiring immediate and radical interference.

Previous to the era of surgical interference there were two classes of cases surgery were familiar with. One was sudden death under very tragic circumstances—post-mortem revealing a ruptured ectopic gestation, large hemorrhage, the whole thing explained, nothing done. On the other hand we had occasional cases of what we called pelvic hematocele, in which after a long period of suffering and invalidism, a more or less perfect restoration to health would be accomplished. Then came the time, especially due to the observations and teaching of Lawson Tait, when the greater frequency of the occurrence of ectopic gestation began to be realized by us, and a more full appreciation of the pathology of many of the cases of intra-pelvic hemorrhage was arrived at. Then came the period of more frequent surgical intervention, and there was a time when it seemed



the general impression was that by prompt operation a large number of women were rescued from threatening death or from chronic invalidism.

As an example of the ante-operative period experiences he recalled the history of a woman whom he saw more than thirty years ago, in whose case he was associated with the late Dr. Skene. The woman had what was diagnosed at that time as pelvic hematocoele. He was satisfied now that it was a case of ruptured ectopic. The woman is still alive, but for many years after she was a chronic invalid, and she has never been the woman she would have been if a restoration of the parts to their normal condition had been brought about by surgical means when her accident occurred.

It seemed to the speaker that the impression ought not to go out, that ruptured ectopic was not an extremely serious and threatening condition, and that under ordinary circumstances the best thing to do for these cases would be at the earliest possible moment, when the condition of the patient would permit, that operation should be done. In other words, if there is present an intra-pelvic condition threatening in its character, a surgeon would be justified in finding out what that condition was. It is not necessary for us to remain waiting blindly to see what will happen. He should be very loathe to accept that as a proper surgical teaching.

From what we know of these conditions, is it not true, he said, that the situation is often one of extreme urgency, and is not a surgeon justified in taking risks to bring to an end this dangerous condition. There may not be a large hemorrhage going on, but the possibilities of the hemorrhage continuing to such a degree as would take the patient beyond the possibilities of help is so great, that it seemed to him that it always should be considered as justifiable to take the necessary steps to find out the condition and to remedy it. In the largest proportion of cases, as the result of such a course we shall save persons that

otherwise would be lost or would be left to a condition of years of chronic invalidism.

Possibly, the speaker said, in some cases we may interfere when it would have been wiser to wait, but there is more reason to feel that in adopting the practice of waiting as a rule, we will more frequently omit to do what should have been done at once, so that taking the cases as a whole we will do harm rather than good by such conservatism.

#### CARCINOMA OF STOMACH.

Dr. DUFFIELD reported a case as follows:

Mrs. M. M., 28 years, admitted to the Jewish Hospital, November 3, 1908. Patient well nourished with no signs of cachexia. About eight years ago had an attack of indigestion with moderate epigastric pain, but no vomiting; stools were black intermittently and was ill for about two weeks. Two years ago she suffered with a similar attack and on one occasion vomited pure blood followed for the next few days by the passage of black stools. Since this attack she has always experienced pain in the epigastric region soon after eating accompanied by a sensation of faintness. Has not vomited any blood but movements have been black a number of times. Five weeks ago she again had an attack of epigastric pain and vomited about a pint of blood, part of which was bright red while the rest was dark and clotted. Since then there has been no vomiting but the movements have frequently been black and the epigastric pain has persisted. Tenderness of moderate degree in epigastrium slightly to the left and a tumor about the size of a lemon can be palpated. Tumor movable.

On November 5th, a test breakfast was given and removed one hour later. Ten c.c. of a thick brownish fluid were removed and on analysis showed the following condition: Acid in reaction, free hydrochloric acid .073, combined acid .063, total acidity .146, lactic acid negative and blood present.

Operation was decided upon and on



opening the abdomen a mass about the size of a lemon was found in the middle of the greater curvature surrounded by dense adhesions of omentum and transverse colon. These adhesions were ligated and separated, during the course of which a small incision was made in the transverse colon which was immediately sutured. After freeing all adhesions double ligatures were applied to the gastric branch of the celiac axis, the pyloric branch of the hepatic, and to the gastro-epiploica dextra and sinistra and Doyen's clamps applied. The middle half of the stomach was then resected and the ends directly anastomosed by one layer of chromic gut sutures through the mucosa and two layers of silk sutures through the peritoneum and the abdomen closed in layers without drainage.

Following the operation she vomited but once, about one ounce of brown frothy material one and one-half hours after her return to the ward. Nourishment was maintained by the use of nutrient enemata all of which were retained. On the second day had a large yellow defecation. On the fourth day small quantities of water were given by mouth and retained. There was very slight distention in the lower abdomen but absolutely no rigidity and no tenderness except the usual tenderness immediately around the wound. Up to this point there had been a slight temperature which was gradually declining and had about reached normal. At midnight she complained of very severe pain in the left chest and when examined by the house surgeon her left chest was found to be full of rales. Temperature 103 3-5 degrees, pulse 140 and respirations 45. She was expectorating considerable frothy mucus, not blood stained. Death occurred in about three hours and no autopsy was permitted.

## TWO CASES OF INTUSSUSCEPTION.

Dr. W. L. DUFFIELD related these cases as follows:

CASE 1.—Boy, 12 years old, admitted to the Jewish Hospital the early part of November, 1908. Three days

before admission complained of severe abdominal pain followed by vomiting, the latter occurring at intervals up to time of admission. No bowel movements.

On admission general condition excellent, temperature about 99.5 degrees, pulse good quality, not rapid. No abdominal tenderness, very slight distention and no tumor palpable. No vomiting and no bowel movements. Leucocyte count practically normal. The boy looked and acted perfectly well, and had it not been for his absolute constipation would have been allowed out of bed. He was given a fluid diet and kept under observation. Following the administration of an enema he passed a slight amount of blood, which the nurse said was probably due to slight trauma inflicted. Not being able to induce a bowel movement and because of visible intestinal peristalsis following a cathartic, he was operated on the third day after admission. An intussusception of the ilium into the cecum was discovered with a second loop of intestine passing through a slit in the mesentery of the intussuscepted portion of the gut. This second loop was reduced, followed by a reduction of the intussusception and resection of about twelve to fourteen inches of gangrenous intestine containing two perforations. End to end anastomosis by sutures was done and uneventful recovery followed except for superficial infection, probably due to soiling during resection.

CASE 2.—Child three years old, admitted to St. John's Hospital February 9, 1909. Present illness began two months ago with pain in the abdomen, paroxysmal in character. Bowels regular, no vomiting. Patient poorly nourished, abdomen distended but soft; dullness over entire right side with gurgling on percussion. A large, solid, irregular mass occupied the right side of the abdomen with smaller masses palpable in the epigastrium. No fluid apparent. Temperature on admission 100.4 degrees, declining in twenty-four hours to normal; pulse



140, but dropping to 120 the next day. Bowels regular, no vomiting.

Operation by Dr. Delatour February 11th, two days after admission. Vertical incision through right rectus muscle, entire right side of abdomen filled with a mass difficult to identify, but which was determined to be a chronic intussusception of the ilium into the cecum, with very dense surrounding adhesions and many enlarged mesenteric glands. The mesentery was ligated with considerable difficulty due to enlarged glands and the lower portion of the ilium and cecum were resected. Lateral anastomosis with Murphy button was done, and the wound closed without drainage.

The condition following operation was very poor, but the child gradually improved. The button was passed seven days after the operation.

#### THROMBOSIS OF THE SUPERIOR MESENTERIC ARTERY.

Dr. RUSSELL S. FOWLER presented a specimen and photographs showing thrombosis of the superior mesenteric artery with the following history: H. B., referred by Dr. W. A. Seimel; male, aged 24 years; three months ago had an attack of appendicitis lasting three days. Present attack began two days ago and was a typical attack of appendicitis. Temperature 102.8 degrees F., pulse 108, respiration, 24; blood examination showed 18,200 leucocytes with 88 per cent. polymorphonuclear; abdomen typical of acute appendicitis; heart, lungs and arteries, negative. *Operation:* G. R. Fowler, intermuscular; appendix, acutely inflamed pointing upward and backward behind cecum; easily and quickly excised; wound closed; Boldt's dressing. *Course:* Patient was instructed to sit up in bed on the second day, but being apprehensive did not do so. T. P. R. on day following operation 100 degrees F., 84, 28. Temperature rose to 102 degrees F., on second day and gradually fell to normal by evening of third day. At 10 P. M. of evening of third day the patient complained of diffuse abdominal pain. There was no disten-

sion. He was given morphine sulphate gr.  $\frac{1}{4}$  by hypo. At 4 A. M. of the fourth day he vomited a large amount of curdled milk and still complained of pain in the abdomen. T. P. R. 100.4 degrees F., 70, 20. Two hours later he suddenly expired. *Autopsy:* General condition of body good; all organs normal except a small amount of bloody fluid free in the peritoneal cavity, a reddish drab discoloration of the small intestine from the duodenum to within a few inches of the ileo-cecal juncture, and a thrombosis of the superior mesenteric artery extending into all the terminal branches except the ileo-colic. The vein with its radicals was empty.

#### FRACTURE OF THE HEAD OF THE TIBIA.

Dr. J. M. DOWNEY stated that this patient, a man 42 years old, was injured December 22, 1908. He had just mounted an unmanageable horse in the paddock of a riding academy, when the horse reared and fell with him throwing him against the mounting block. He was carried to the office where he received temporary treatment by a physician. The speaker saw him half an hour later and found an outward displacement of the left leg. No reduction was attempted at the time. The leg was supported by lateral splints, and he was removed to his home.

Examination under ether showed that while the leg seemed to be displaced outward to the extent of about two inches, there remained in place a small fragment of the head of the tibia, including the attachment of the ligamentum patella. It was reduced without difficulty, but tended to recur unless traction was maintained. The leg was put up in a plaster cast, which included the foot and thigh. This temporary dressing was removed at the end of three days when Dr. Caldwell took the radiograph, which the speaker presented.

The fracture was found to be in good position, and the plaster case was, therefore, reapplied and not removed for eighteen days. The pa-



tient rigged up a very ingenious cradle to support his leg, which was so arranged that he could shift himself about or turn over without injuring the leg. This arrangement consisted of a scaffold, from which there hung three weighted cords. At the end of each cord there was a pulley, through which ran a loop that included the cast so that when the leg was turned the loop played freely through the pulley with no strain on the leg. After three weeks the cast was cut, so it could be removed daily and gentle passive motion begun. This was continued for another month, the cast being gradually shortened, massage being employed after the fourth week. He was allowed to walk with the aid of crutches in about six weeks. At the end of seven weeks the cast was discarded, but it was found advisable to give the knee some support, so a Campbell's splint was applied. It is now about three months since the accident occurred. He has no discomfort and over 100 degrees of motion in the joint, but is still wearing the splint as a safeguard.

#### APPENDICITIS WITH INTESTINAL HEMORRHAGE.

Dr. J. M. DOWNEY stated that this patient, age nine years, was operated on July 1, 1908, for appendicitis after the method advocated by Wyeth. As this was the first time he had tried the procedure and the only time he had internal hemorrhage following appendectomy, he concluded to report the case.

No suggestion of a hemorrhagic diathesis in the previous history. June 8th he had an acute attack of appendicitis for which the speaker operated on the third day. He found an acutely inflamed appendix with no peritoneal involvement. The appendix was tied off, the stump cauterized and the abdominal wound closed without drainage. He made an uneventful recovery and was discharged from the hospital on the fifteenth day.

Four weeks after the operation

after eating some peanuts the boy complained of severe pain in the abdomen and chest. He passed a normal stool and vomited. His mother gave him some calomel. In the course of several hours he passed three large stools which contained some bright red blood and large black clots. He vomited again and his mother stated that the vomitus had the appearance of flakes of chocolate. When seen that night the temperature was 100°, pulse 128, abdomen slightly distended, rigid, some tenderness in the right iliac fossa, peristalsis was active, rectal examination negative; spleen not palpable, but large to percussion. The following day temperature dropped to 99°, pulse 108. He passed two more bloody stools, in which blood was recognized both chemically and with the microscope. There was less distention and tenderness and no pain. The next day the boy was much improved, temperature normal, pulse 96. There was no more hemorrhage. The urine was normal except for a great excess of indican; diazo reaction negative. At the end of a week he was in an apparently normal condition.

Dr. Howard, his family physician, reports his subsequent history as follows: For the past eight months suffered from more or less indigestion and headaches; recently has had a number of severe nosebleeds. Nose and throat appear to be normal. The spleen and lymph glands are not enlarged. Urine excess of indican. Heart normal except for hemic murmur at base. Blood shows secondary anemia of moderate degree; hemoglobin 68%, reds 5,580,000, white 8,400, differential count normal.

*Conclusions.*—There appear to be three possible explanations for the occurrence of the intestinal hemorrhage: First, that it was a manifestation of some hemorrhagic diathesis, as suggested by the tendency to epistaxis; second, that there was an ulcerative process somewhere in the intestinal tract, possibly of a tubercular character, the disease of the appendix being due to the same cause; third,



that there was a continuation of the inflammatory condition in the stump of the appendix, resulting in erosion of the appendicular artery on the proximal side of the ligature.

The first seems unlikely in view of the absence of other evidence. The presence of an associated ulcer can not be excluded although his subsequent history does not favor this conclusion. Finally it is possible to have an erosion of the appendicular artery when it is not inverted, resulting in severe intestinal hemorrhage without perforation into the peritoneal cavity. At all events, it is possible to have a good sized hemorrhage after the canal and had no connection with the terization.

Dr. L. S. PILCHER said that intestinal hemorrhage is not so infrequent an occurrence. When intestinal hemorrhage follows an operation for appendicitis, it had been well demonstrated that this hemorrhage in some cases had come from some other portion of the intestinal canal and not from an ulcerated appendicular artery, and in the case which had just been reported it was possible that the hemorrhage was from an ulcer in

some other portion of the intestinal canal had no connection with the appendix.

Dr. J. M. DOWNEY said that in an article written by Wyeth in regard to stumps inverted after appendectomy, he claimed there never was a hemorrhage following a ligation. Halstead reported a case that died, but the stump was inverted. That case died from peritonitis and hemorrhage, and he is the only man that has had an autopsy as far as he could find. In this case it was due to suppurative peritonitis, as the ligature was shown to have slipped.

In the speaker's case, he thought probably it was a tubercular condition, and there might have been an ulcer close to the appendix, and that the method of operation had not much to do with the hemorrhage. The hemorrhage took place a month after operation.

Dr. W. L. DUFFIELD said in a case operated on by Dr. Delatour there was a marked intestinal hemorrhage two or three days after the operation. The meso-appendix was ligated in the usual manner and the stump inverted by purse string.

---

*Regular Meeting, May 6, 1909.*

The President, C. H. GOODRICH, M.D., in the Chair.

**CHRONIC INTUSSUSCEPTION.**

Dr. RUSSELL S. FOWLER presented a little girl with the following history: Six months ago she had an attack simulating appendicitis. She received catharsis at that time and recovered from the attack. Two months later she had another attack simulating appendicitis and was sent to a hospital. After remaining there a few hours she was sent home and the next day sent back, and was kept for several weeks under observation. She came under his care referred by Dr. Irving Cameron, two months ago. At that time she had developed a left inguinal hernia, which was thought to be the cause

of her vague abdominal pains. She had in the course of the six months one attack of rectal tenesmus with no passage of blood. There was no palpable tumor of the abdomen, and it was thought these symptoms might be due to the inguinal hernia. That was operated on. Observation in that region failed to disclose any adhesions or any reason for the continued cramps. An incision was made over the appendix, and it was found the case was one of intussusception. The caput coli and lower part of the ilium was resected and an end to end anastomosis done.

The interesting point was that during the six months there was at



no time discovered a tumor of the abdomen, although the tumor was quite large. The speaker stated that this was a chronic intussusception. The mass presented many adhesions and had been there probably for some weeks or months. The appendix shown here in the specimen presented was invaginated with the caput coli at time of operation. It was impossible to entirely reduce the invaginated small intestines, hence the resection. The opening through the mass was the size of a small quill.

Dr. L. S. PILCHER said there was every probability this intussusception had been the cause of the repeated acute attacks. He inquired if any interference with the ordinary function of the bowel there had been as the result of the continued presence of this malposition.

The possibility of a limited amount of intussusception, such as was shown in the specimen, without being discoverable by ordinary palpation and possibly producing symptoms that would awaken suspicion as to the real character of the case perhaps occurs more frequently than we are aware, and it is quite possible temporary displacements of this kind do occur which are spontaneously reduced.

Dr. H. B. DELATOUR said he did not hear Dr. Fowler report his case, but Dr. Pilcher's remarks led him to say a word. He had three cases of intussusception that were operated on and a decided invagination

had taken place in which no tumor was presented some time ago of an intussusception he operated on three months ago, a child in whom the intussusception had existed for three months, and at the time of operation the opening through the mass was sufficient to permit an artery clamp being passed through, and the child had no signs of complete obstruction. He did a resection, removed quite a large portion of the intestine and did an anastomosis. The child made a nice recovery and went home, and about three months afterward came back to the hospital much distended with evidence of fluid in the abdomen, and on opening the abdomen he found the intestines all matted together. It was impossible to free the bowel, still there was no obstruction to the intestinal canal. The child died resembling a case of marasmus. He could not get a post mortem.

Dr. W. LINDER quoted an authority who in a series of autopsies found intussusception in 4 per cent. of the cases. He stated the condition occurs quite frequently and recovers itself. He found an intussusception where five or six inches of the gut was intussuscepted and lying in the pelvic cavity, and all that was necessary was to pull the intussusception out. The case recovered. He thought this is true in a number of cases where acute abdominal symptoms set in and the patients recover.



# LONG ISLAND MEDICAL JOURNAL

VOL. III

NOVEMBER, 1909

No. 11

## FAUCIAL TONSILS—HYPERTROPHIED AND OTHERWISE.

By CHARLES E. SCOFIELD, M.D.

MY REASON for presenting this subject is not with the idea of presenting any new or startling ideas, but because the topic appears to be timely and of interest to all of us. To one who spends a couple of hours daily in an ear, nose and throat clinic the enormous increase in the number of cases of throat, nose and ear trouble can not go by unnoticed. Within the past year the number of cases has doubled and in many instances trebled, due chiefly to the activity of school inspection together with the awakened interest the general public has manifested in the subject.

The subjects naturally have been mostly children and the trouble in most cases referable to the faucial tonsils either directly or indirectly. As these glands play so important a part in the health or disease of the child or adult, let us stop and take a careful look at them. What are they any how? What good do they do when healthy, and how do they cause disease? The anatomy you are all familiar with. You know they are situated in the sinus tonsillaris between the faucial pillars and have their origin in an invagination of the hypoplast at this point. Later the depression thus formed is sub-divided into several compartments which become the permanent crypts of the tonsils. Lymphoid tissue is deposited around the crypts and thus the tonsillar mass is built up. The inner or exposed surface including the cryptic depressions is covered with mucous membrane, while the outer or hidden surface is

covered by a fibrous capsule. Thus we have an encapsuled organ characterized by from eight to twenty crypts or tubular depressions. Many have confused the tonsil with the follicular tissue immediately surrounding it so that as long as they are able to remove follicular tissue through a wound in the sinus tonsillaris they thought they were removing tonsillar tissue. In this they are mistaken as the lymphoid tissue immediately surrounding the tonsil is not encapsuled nor is it characterized by cryptic depression. The tonsil does not always fill the sinus tonsillaris but often leaves an unoccupied space above it, being known as the supratonsillar fossa, into which several crypts usually open. The outer aspect of the tonsil is loosely attached to the superior constrictor muscle of the pharynx, thus subjecting it to compression with every act of deglutition. The posterior pillar contains the palato pharyngeus muscle and the anterior pillar the palato glossus muscle.

*Crypts.*—The crypts are generally tubular and usually extend the entire length of the tonsil to the capsule on its outer surface. Some are compounded, that is they divide below the surface into two or more tubules. They are usually comparatively straight though they may be tortuous in their course. In the supratonsillar fossa they usually extend downward and outward and in the lower portion of the tonsil their direction is usually outward. Clinically the crypts seem to be the source of most trouble, as



they often become filled with food tissue debris and bacteria, but even with the crypts filled thus, inflammatory processes do not occur unless the plica triangularis, which is a fold of mucous membrane running from about the lower half of the anterior pillar obliquely backward and downwards, covering the lower third of the tonsil and gradually lost in the posterior pillar and the palato glossal fold, causes a mechanical closure of the crypts, thus preventing drainage.

*Epithelium.*—The free surface of the tonsil, including the crypts, is covered with stratified pavement epithelium; the deeper lairs are columnar in type.

*Bloody Supply.*—The tonsils are supplied by the tonsillar artery, which is a branch of the facial, though sometimes the ascending palatine takes its place together with the ascending pharyngeal from the external carotid.

*Lymphatics.*—Surrounding each follicle is a close plexus of lymphatic vessels. From these plexuses the lymphatic vessels pass to the deep cervical glands in the upper part of the neck, which frequently become enlarged in affections of these organs. This is very important, as the tonsil is the portal of infection of many systemic diseases, as many bacteria which are always demonstrable in cultures taken from the mouth and throat of all of us, which once overcoming the resistance of the cells lining the crypts and mucous membrane of the tonsils, can thus find a ready entrance to the lymphatic vessels which drain into the deep cervical chain underneath the sternocleido mastoid muscle and from thence to the thoracic glands and, finally, the thoracic duct. By this route infection is carried to all parts of the body.

*Physiology.*—Regarding the function of the normal tonsil our text books are eloquently silent. We know they are fully developed in the new born babe, and we also know that complete enucleation in very early life does not apparently affect the system. Various theories as to their function have been presented, but not proven. Some think they supply the system

with a secretion similar to some of the ductless glands; others, that they remove chemical poison from the body, and still others consider the tonsil as the creator or source of the leucocytes. In a recent article in the *Laryngoscope*, Dr. R. H. Good, of Chicago, considers the tonsillar crypts as sort of culture tubes. The mucus in the crypts being the culture medium. The bacteria multiplying in the crypts give off products called vaccines, which are taken into the tonsils by the lymph current and thence into the entire system, where they come in contact with the fixed tissue cells, which in turn have the power of producing antibodies such as opsonins, agglutinins, etc., and thus produce immunity. Granting any or all of these theories as being true, the tonsillar function ceases entirely or is greatly impaired when it is diseased, and it is the diseased condition of the tonsil itself or its result that concerns us. The tonsil being situated in the important post we have formerly described and constantly besieged by bacteria of all kinds ready and waiting for a chance to get into the system, for by its situation it is exposed to bacteria coming in by way of the nose mouth, lungs and stomach. All food with more or less micro organisms comes in contact with the tonsil in the act of swallowing. Dr. Jonathan Wright has demonstrated that secretions from the nose are carried toward the tonsillar crypts by the cilia. The secretions from bronchial tubes and lungs are coughed toward the tonsils or carried there directly by the cilia and in vomiting the stomach contents are emitted by the tonsillar route. The question naturally arises: what is to be done to protect the system and how shall we go about it? Shall we employ local applications, internal treatment, or surgical measures? These are all good in their place but after various local and medical measures are employed and the patient is relieved for a short time only to have a return of his tonsillitis, quinsy, middle ear catarrh or other trouble in a short time the question of permanent relief soon comes up. Then



comes the question of surgical interference and that brought down to two procedures, tonsillotomy and tonsillectomy. The method of shrinking the tonsil by astringents and the application of the cautery in the crypts with the object of destroying them has been pretty generally abandoned by most laryngologists. This later method was quite popular for some time and consisted of passing the electrode a more or less distance in the crypt with subsequent obliteration. The reaction in these cases is severe, in many instances, and always unsatisfactory, as it is impossible to get to the bottom of the crypt, especially if it sub-divides or is tortuous, and in these cases the natural drainage of the gland is impeded with subsequent severe and painful inflammatory reaction, often leading to circumscribed abscesses or diffuse cellulitis. In many instances this procedure caused the quinsy, which is simply a peri tonsillar abscess and which practically never occurs in true tonsillar tissue. Hence tonsillotomy or tonsillectomy must be employed. Tonsillotomy or decapitation of more or less hypertrophied tonsils is useful and successful in some selected cases where the hypertrophied tonsil projects freely from a shallow tonsillar fossa and clear of the pillars. It has been for many years a most popular surgical procedure on account of its ease and the rapidity with which it can be done, and where a large air space only is desired it is eminently successful, but its use has been too universal. Many hypertrophied tonsils that have been more or less incapsulated have simply been decapitated leaving behind a large stump to granulate and seal up the lower parts of the tonsillar crypts with subsequent recurrence of tonsilitis, quinsy or cellulitis and a non-successful result generally, thus bringing all tonsillar operations into ill repute and causing a false idea of universal recurrence of tonsils after operation. The most troublesome of hypertrophied tonsils is the buried tonsil. This can not escape into the throat as it enlarges, as the pillars of the fauces keep it in the tonsillar fossa so that its growth is apparently

inward instead of outward, though, as a matter of fact, it simply distends and deepens the tonsillar fossa. As these enlarge they gradually push the pillars of the fossa together until they sometimes meet across the throat. An examination of these cases shows a globular mass on either side of the throat with little or no tonsillar tissue visible, while the anterior pillars are thinned enormously. The futility of using a tonsillectome in these cases is apparent. In fact these cases are very often passed over as being simply an inoperable condition, and the parent told that the child will outgrow the condition. Thus one of the most serious forms of diseased tonsil is left untreated or given scant attention and it is to this class of cases that I ask your special attention in the hope that many of these will be recognized in the future and full value given to this serious condition. That it is a serious condition no one can doubt. As the buried tonsil enlarges the mechanism of the soft palate is often interfered with to the extent of making pronunciation indistinct, and by pressure on the eustachian tube from below it interferes with middle ear ventilation with subsequent catarrhal troubles. It is to this class of cases together with tonsils thickened, and scarred by repeated attacks of follicular tonsilitis, or quinsy, or a small tonsil, whose cryptic drainage is mechanically or otherwise obstructed either by the plica tonsillaris or injudicious use of astringents or cautery, that radical operation or enucleation of the tonsil is necessary. The operation briefly is as follows:—local or general anesthesia can be used, depending upon the size of the tonsil, the age of the patient or whether the operation is performed in the hospital or the office. If a local anesthetic is used the patient is seated in the upright position, a mild solution of cocaine is injected into the pillars with or without adrenalin and the free surface of the tonsil wiped off with pure cocaine crystals. From ten to twenty minutes is required to dissect each tonsil and it is advisable to remove one tonsil before cocainizing the other. If a general anesthetic is



used the patient should be fully anesthetised. The first step is to dissect the anterior pillar and plica tonsillar from the tonsil. This is done with a sharp knife designed for the purpose, or a blunt dissector, after first starting with the knife. When this is freely dissected the posterior pillars are separated from the posterior surface of the tonsil. The tonsil is then drawn downward and inward toward the centre of the throat with a tonsil forceps and with a curved knife or special scissor is cut out, beginning at the top in the supra-tonsillar fossa. The tonsil being freed on all sides can readily be peeled out with a blunt spatula-shaped instrument or snared off with a cold snare, or cut with a tonsillitome. Should any ragged edges remain a tonsil punch can be used to clean up the wound. More or less hemorrhage is present, but as a rule it is easily controlled. After the removal of the tonsil a cold water mouth wash is used

or little pellets of cracked ice usually stop the bleeding. It is advisable to keep the patient in bed for twenty-four hours and limit the food to cold milk or ice-cream. Pain on deglutition is more or less marked for a few days, but an orthoform tablet dissolved on the tongue for from one-half to one hour before eating usually enables the patient to take sufficient nourishment. The wound is entirely healed in from ten days to three weeks. The complete enucleation cures the patient of their troublesome condition and no recurrence is possible, provided the operation has been thoroughly done. When this operation takes the place of astringent, cautery, tonsillotomy and other make-shift and timid devices, then, and not till then will our patients get permanent cures and the operation for the removal of diseased tonsils take its rightful place as a dignified and legitimate piece of modern surgery.

## APPENDICITIS IN CHILDREN.

By ARTHUR H. BOGART, M.D.

Attending Surgeon to the Methodist Episcopal Hospital and to the Coney Island Hospital.

AS A RESULT of an experience gained in the treatment of forty-six cases of acute appendicitis in children under twelve years of age at the Methodist Episcopal Hospital, the writer has come to the conclusion that it is a more serious proposition than it is in the adult.

It is not uncommon in these days for surgeons to report one hundred consecutive cases of appendicitis in the adult with no mortality, in fact, one operator has reported seven hundred and ten cases with no mortality, while Murphy claims but 2 per cent. of deaths in his last one hundred cases.

In looking up the reports of these forty-six cases I was somewhat surprised to find that eight had died, giving a mortality of about 17.1-3 per cent. Upon looking still further into

the matter, however, I found that my results compared quite favorably with those of other operators, and that the mortality varied in children from 7 to 25 per cent., the average being about 16 per cent. Those who report but 7 per cent. of deaths evidently have been very careful in the selection of their cases. Erdmann, for example, operated upon but twenty-two out of twenty-nine cases. In my series of cases all were operated upon except one which was apparently convalescent on admission.

Comparing these figures with those obtained in the treatment of adult cases it is evident that the last word has not been said with regard to appendicitis in children, although the subject in general is a time honored one.

If it is possible to treat success-



fully 89 per cent. of cases of appendicitis in adults, it should be possible very materially to reduce the mortality in children; and there can be no doubt but that the combined Murphy-Fowler treatment, together with improvement in technique, has contributed largely to that end. This is shown in my own cases in the last twenty-five of which the mortality was but 10 per cent. It would seem, however, that the limit had pretty nearly been reached in that direction, and that whatever improvement we may expect in the future must be the result of the early and not the late management of these cases.

In nearly all of my fatal cases the cause of death has been general peritonitis with or without intestinal paresis, in other words, from the complications, and not from appendicitis itself. If now we consider the fact, that there was a time in all of these cases in which no complications existed we come pretty near the solution of the problem.

What we need in the treatment of appendicitis in children is the same sort of activity as is shown in the treatment of the adult cases, or in the treatment of diphtheria, for while it is true that deaths have followed the injection of antitoxin, yet no one waits three and a half days before using it. This, however, has been true in my series of cases, the average duration of the attack being three and a half days before they came to operation.

Much has been said and written concerning the difficulties of diagnosis in children, and this is perhaps quite as important as any part of the subject, but as a matter of fact so well have the laity become informed upon the question through the daily press and otherwise, that they frequently make their own diagnosis and not infrequently request an operation. Certain it is that there is rarely much difficulty in making a diagnosis by the time the case reaches the hospital; and it has been my own experience that the diagnosis in general has been comparatively easy. It occasionally happens, particularly in nervous and irri-

table children, that one can not decide at once. Such cases should be carefully watched and repeatedly examined in order to elicit the positive signs which will usually make their appearance inside of twenty-four hours, if we are careful to recognize them.

Without considering in detail the differential diagnosis of appendicitis in children, there are certain broad principals which may be laid down and I think used to good advantage. Of these, perhaps the fact that the abdomen is more frequently opened in children for appendicitis than for any other one condition is worthy of consideration.

Fortunately, in children we can at once eliminate a number of conditions which would have to be considered in adults; and the diagnosis therefore narrows itself down to a comparatively few diseases worthy of consideration, the principal of which are, acute indigestion, typhoid fever, ileus, pneumonia, pleurisy, tubercular peritonitis, intussusception, hip-disease hernia and ovarian disease; and of these, perhaps acute indigestion, right sided pneumonia, and typhoid fever are most frequently mistaken for acute appendicitis in children.

In only two of my series of cases was there any doubt as to the diagnosis; in one a boy of about nine years of age was taken ill in the country while at school, he was seen by the local physician, who diagnosed the case as one of typhoid, and sent the patient to a hospital, where a diagnosis of appendicitis was made and the case prepared for operation. When seen by the writer there was some tenderness in the right iliac fossa, slight fever, and a moderate degree of localized pain, but, so far as could be determined, no muscular spasm. A widal, diazo, and leucocyte count very promptly cleared up the doubt in this case and it followed a typical typhoid course, terminating in recovery.

The second case was that of a boy eight years of age, who was brought to the Methodist Hospital with a history of having been sick for two days



with pain in the right side of his abdomen, nausea, vomiting, and constipation. He had a temperature of 100.0 and a corresponding pulse. Examination revealed marked tenderness and muscular spasm in the right iliac region, in fact, all the symptoms of a mild case of appendicitis, for which a McBurney incision was made. Upon opening the abdomen, however, the appendix was found normal, but an acute intestinal obstruction was found to be present, due to a small band passing around the gut from one side of the mesentery to the other, completely obstructing the gut at that point,—the location of this band was immediately under my incision. This case made a rapid recovery, and I can conceive of a no more typical picture of an acute appendicitis than it presented.

Intussusception has been mentioned as likely to be confounded with acute appendicitis in children, in fact much has been written concerning the differential diagnosis between these two conditions. In my own experience, however, it would seem to have been given too much consideration. It is much less common than appendicitis as shown by the fact that in about twelve years I have seen but four cases of intussusception, while during the same time I have seen about one hundred cases of appendicitis in children, and in no case has there been any doubt as to the nature of the trouble.

The picture of intussusception as I have seen it is entirely different from that of appendicitis, and requires no description here as it is familiar to you all. It is usually the case in infants, while in my series of appendicitis cases the youngest was two and a half years of age.

Undoubtedly the most common mistake in the diagnosis of appendicitis in children is made in connection with pneumonia and pleurisy, particularly of the right side. I have seen such cases in which an immediate diagnosis was impossible, and one has to be constantly on their guard to avoid operating upon children for appendicitis in which a

right sided pneumonia or pleurisy is present. A child suddenly taken ill with abdominal pain, a rigid abdomen, constipation, drawing up of the knees and with some elevation of temperature upon examination presents a fairly good picture of appendicitis. Such an onset, however, is not uncommon in pneumonia, and while the writer does not recall having operated on any such case, others have.

I have seen no case of hip-joint disease which might have been mistaken for a case of appendicitis, nor have I seen any case of appendicitis which might have been mistaken for hip-joint disease. It is not uncommon, however, in my experience to find the thigh flexed in the acute stage of appendicitis or even later when abscess is present.

In my series of cases there was one case of tubercular peritonitis with very extensive involvement of the appendix, which was removed, evidently, however, the appendix had not been the seat of the primary lesion, as all the symptoms pointed to tubercular peritonitis with secondary involvement of the appendix.

Briefly, then, I would look with suspicion upon every case of abdominal pain with nausea vomiting, and elevation in children. Most of these cases will turn out to be nothing more than acute indigestion due to errors in diet. If, however, there develops spasm of the abdominal muscles of the right side, with pain and tenderness persisting after a free evacuation of the bowels, appendicitis should be suspected and the case treated accordingly. Procrastination in such cases generally means peritonitis with death, while immediate operation means recovery in most instances.

It is well to remember in children that the point of maximum tenderness may not be located at McBurney's point. This will depend upon the location of the appendix itself. In those cases (which are not at all uncommon) in which the appendix is retrocæcal and high up, the point of greatest tenderness may be located posteriorly; or, as in the last case in which I operated, the point of great-



est tenderness was located low down near the median line, and through a Kammerer incision the appendix was found well down in the pelvis; so that one should not exclude appendicitis simply because of the absence of tenderness of McBurney's point.

I do not think we have been influenced to any great extent in the management of these cases by the blood count. In seventeen of the series a leucocyte count was made as a matter of routine in which it varied from 42,000 in a gangrenous case, which died, to 8,850 in a clean case, the average being about 19,000. I doubt if a leucocyte count can be of very much value in the diagnosis of any case of acute appendicitis of three days duration in a child. A high leucocyte count at this time does seem, however, to point to the presence of pus as shown by the fact that in all the cases in which the count was above 15,000, pus was found to a greater or less extent, but in all such cases it was suspected as a result of our physical examination, the count therefore was of no practical value from a diagnostic standpoint or in the management of the cases. It would seem, therefore, as Kelly has suggested, that to be of any practical value the count should be made early and repeatedly, in all suspected cases, and that a rapidly rising leucocytosis should be considered as one more indication for immediate operation.

Unfortunately, perhaps the most important part of the blood examination in these cases seems to have been neglected, namely, the polynuclear cells, as I was able to find records of but five cases in which it had been made in connection with leucocyte count. In these it was 48, 77, 82, 89, and 70 per cent., in all of which cases, except the first, drainage was required and all of which recovered.

In operating upon children I have been impressed with the fact that adhesions are less common than in adults, and also of their extreme friability when present requiring the

utmost care in order to prevent breaking through into the peritoneal cavity; and, I have also felt at times that I have been too ambitious to do the complete operation removing the appendix in every case, in some of which I now believe it would have been better surgery to have drained the abscess and left the removal of the appendix until some more favorable opportunity, when it might have been accomplished in the absence of pus, and without the danger of infection.

In my earlier operations it was the custom to make an attempt to wall off the peritoneal cavity by the introduction of gauze sponges so familiar to us all, and I am not sure that serious damage has not been done in some cases by too persistent efforts in that direction. Usually the first step in the introduction of a protecting sponge is to wipe the corner into the infected area and then tuck it carefully away among the surrounding healthy structures, breaking up valuable adhesions in so doing, to say nothing of the extra traumatism which must result in the opening of fresh surfaces for absorption. Recently, therefore, while not entirely abandoning the use of protecting sponges, I find myself using them less and less, and by so doing I think I have obtained better results.

In all operations upon children I have been impressed with the importance of inflicting as little traumatism as possible, particularly in appendicitis with abscess. With that end in view I have always limited my incision as much as possible, not, however, limiting myself to an inch or an inch and a half where the necessary pulling and hauling to remove an appendix through such an incision would result in more damage than if it were made larger. As a matter of fact most appendices in children can be removed through a very small incision. There are cases, however, in which it is better to take more room. I have done so when necessary, always trying the smaller one first. In all of the clean cases in this series I have used the McBurney in-



cision, in others I have been governed in most instances by the swelling which in some has been found to be more accessible through the rectus or Kammerer incision, in others the McBurney incision has been found quite satisfactory, while in a few I have made the opening in the median line.

It is an unfortunate fact that it was considered necessary to use drainage in no less than thirty of these cases. For this purpose we have used wicking or cigarette drains, iodoform gauze, plain gauze, and rubber tubing. It is to be regretted that we have to use drains in these cases at all; if we do, however, it has seemed to me that a suitable rubber tube, either alone or with a small piece of plain gauze, acts as well as anything else. In fact, I have not been able to find anything in the shape of gauze, wicking, or similar material which acts perfectly as a drain. None of them drain for more than twenty-four or forty-eight hours at most, when they become plugs and require removal, which is usually followed by a gush of pus. Some good authorities advise leaving the drains in place for four or five days or more for fear of doing damage in breaking up adhesions by their removal earlier. I can recall no case in which I have felt that damage has been done by the removal of drainage at the end of forty-eight hours. As a matter of fact, I believe that the less drainage we use in these cases the better off they will be, and I omit it whenever possible.

With regard to the treatment of the stump of the appendix in children, I believe it is a mistake to waste valuable time in attempting to bury it, and can recall no case in which any unfortunate symptoms developed as a result of having failed to do so. I have had some cases of fecal fistula

following appendicitis operations in children, but always in cases in which gangrene had involved the cæcal wall. In an absolutely clean case with the patient in good condition I can see no great objection to such a procedure but do not feel that it contributes much to the final result in any case, and do feel that it can be well omitted in bad ones.

It has been our experience that in those cases in which general peritonitis and intestinal paresis have developed but little can be done further than the removal of the appendix and the adoption of the Fowler-Murphy treatment. It has seemed to me to make but little difference whether the abdominal cavity was washed or sponged out or let alone, most of the cases do badly, more I think than in adults. It has been stated that children bear general peritonitis better than adults, I have not had that experience.

In conclusion, I would say that appendicitis in children is a comparatively frequent disease, insidious in its onset and rapid in its development, with a decided tendency toward the development of general peritonitis, with a fatal termination if neglected; and that whatever holds good with regard to immediate operation in the adult is doubly true in children, and that in the light of our present knowledge no case should be permitted to go for three days without operation.

I would emphasize the fact that the removal of the appendix in a child by a competent surgeon is comparatively without danger and would recommend that it be done in every case as soon as a diagnosis has been made, provided that a competent surgeon and the proper facilities can be had to do it. In this and in no other way can the present mortality be reduced.



# ACUTE ANTERIOR POLIOMYELITIS.

## IS EFFICIENT TREATMENT OF THE ONSET POSSIBLE?

LE GRAND KERR, M.D.

Visiting Pediatricist to the Methodist Episcopal (Seney) Hospital, the Williamsburgh Hospital and the Swedish Hospital in Brooklyn, N. Y.; Consulting Physician to the Children's Department of the East New York Dispensary.

IT is not my purpose to answer this question at this time, but to record an experience occurring during the recent epidemic of acute anterior poliomyelitis in the Brownsville section of Brooklyn, N. Y. This is done with the idea that this experience, compared with that of others, may throw some light upon the proper procedure in the early stages of this disease, when an epidemic is known to be present. Early in August, 1909, I saw several cases of acute anterior poliomyelitis in consultation, and in each instance in the same section of the borough (the Brownsville section). Realizing that we were probably about to experience an epidemic of the disease, our chief concern was what methods could be used to prevent or limit the onset of paralysis?

Immediately we were confronted with this problem: How early can the diagnosis be made. The prodromal symptoms are not at all distinctive or even suggestive when taken alone, so that the detection of the paralysis may come as a surprise. For instance, in this epidemic, between August 7th and September 4th, I personally observed fifty-three cases of the disease, and the symptoms of the onset were as follows:

Fever, accompanied with diarrhea, 10.

Fever, cough and diarrhea, 4.

Fever, vomiting, cough and diarrhea, 12.

Fever alone, 4.

Fever and constipation, 7.

Fever and vomiting, 3.

Fever and cough, 1.

Fever, cough, vomiting and constipation, 3.

No symptoms noted, 3.

Of the remaining six, the symptoms

of the onset were those of a definite disease, associated with the other symptoms, and were diagnosed as follows: Four suffered from tonsillitis, one from lobar pneumonia and one from acute gastro-enteritis.

From this it is seen that the more suggestive symptoms are the fever, diarrhea, cough and vomiting. With such symptoms present, and nothing else to guide us in the making of a definite diagnosis, we must take the position of withholding the expression of an opinion as to the disease present. As a matter of diagnosis this is a perfectly correct attitude to assume, but, in the face of an epidemic, are we justified in delaying every kind of treatment just because the symptoms present are not of sufficient value to lead to an exact determination of the disease present?

I believe that during a known epidemic of a disease of which we knew so little we should treat with suspicion all cases of indefinite illness occurring in children under the age of five years, and particularly if such illness has shown the combination of symptoms as already noted. That one is justified in taking this position I believe is proven by the results obtained in the present epidemic. The method of procedure was as follows: As soon as a child was suspected of having the disease, as indicated by the prodromal symptoms which are suspicious in the presence of a known epidemic, it was immediately placed in a hot blanket pack. The wet blanket was wrung out after being placed in water of the usual temperature, 160 degrees F., and in this the child was wrapped with hot water bottles placed at the feet. The application was sufficiently prolonged to induce a free perspiration.

This procedure was followed even



in the presence of considerable rise in temperature, but was never repeated. After securing the first effect we were cautious not to further depress or exhaust the patient.

In its application there is one warning that should be sounded. In six of our very early cases, in which the paralysis was seen upon the first days of its onset, there was noted a very decided transitory loss of sensibility and it is impossible to say just how long before the onset of the paralysis this loss of sensibility existed. If it existed for some time previous to the paralysis then there would be the danger of irritating by overheating. For with the transitory loss the child would not complain of any discomfort. This loss of sensibility was proven by the processes of pricking and the applications of heat and cold.

The rather copious drinking of hot water was encouraged. We were not unmindful of the fact that its ingestion was followed secondarily by a tonic reaction in which the blood vessels of the stomach were contracted, the circulation less active and the secretion of the glands practically suspended for a time, but as the diet was restricted this reaction was of smaller import. In many instances the vomiting was almost immediately relieved and the free perspiration which was brought about by the hot blanket pack was continued or augmented.

But even if the vomiting persisted or seemed to be increased by the ingestion of the hot water, its use was continued, although the amounts given were decreased. The administration of the water was continued for twelve hours.

The bowel was thoroughly emptied by a hot enema and in most of the cases this enema contained one ounce of magnesia sulphate and two ounces of glycerine to the quart of water.

Immediately following the hot enema, the child was given a single large dose of castor oil. The child was

then placed in bed in a quiet and darkened room and allowed but one attendant. As far as possible it was prevented from lying upon the back. Cold applications were immediately made over the spine and particularly in the lumbar region.

This was the procedure during the first twelve hours and no food was allowed during this period.

At the end of the first twelve hours the hot enema was repeated and the ingestion of the hot water stopped.

For two days the diet was restricted to fluids and if any further action of the bowel was needed calomel in broken doses was used.

During this stage there were only two drugs used: belladonna and ergot. Both were administered in full doses, and when we say full dose in referring to ergot in this particular condition, we mean a proportionately large dose, for if it is to influence spinal congestion large doses must be given.

Nothing is claimed directly for this line of treatment. We feel, however, that in the presence of an epidemic we are justified in using such means as offer even a reasonable possibility of relief.

The number of cases so treated was necessarily small, so small, in fact, that it would be useless to claim anything for the efficacy of the method.

But despite that there remains this fact—that of the number so treated, in no instance was the child afflicted by any paralysis nor was there the further development of symptoms which would lead to the recognition of a definite disease. Were they true cases of the onset of anterior poliomyelitis? That we do not know. We have too few instances before us to warrant anything more than the suggestion that in vigorous management along somewhat similar lines we may hope to influence in some degree the almost inevitable history of paralysis in another epidemic.

42 Gates Avenue.



# BLASTOMYCOSIS.

## A REPORT OF TWO CASES.

By ROYALE HAMILTON FOWLER, M.D.

Interne at St. Luke's Hospital, New York City.

**B**LASTOMYCOSIS is a diseased condition due to yeast fungi.

Blastomycetes belong to the family of unicellular vegetable organisms and consist of oval or spheric bodies from 4-25 micra in size, and are doubly contoured. They may show budding processes indicative of their manner of increase. They occur singly or in chains, forming 4-6 segments, and sometimes form a mycelium. The central portion may contain from one to five small spherical, highly refractile bodies. These particles are surrounded by a thick cell wall and externally by a thick gelatinous capsule. The peripheral portion stains a faint bluish tinge with aqueous thionin, the central part, especially the small spherical bodies, become deeply colored. The organisms may be isolated in pure culture; and it was toward the end of the last decade of the last century that blastomycetes came into vogue as the specific cause of cancer. When fresh pus is examined under the microscope the presence of these organisms is usually easy to demonstrate. Microscopic search of the stained tissue reveals the presence of blastomycotic organisms; if in the abscess wall, surrounded by granulation tissue or imbedded in giant cells. There may be giant cells seen containing no organisms, or the remains partly digested. The granulation tissue offers no special peculiarity except that there are apparently more plasma and giant cells and a larger number of eosinophiles in this form of productive inflammation than is usually seen in pyogenic granulation tissue. When animals are injected they reproduce perfectly the human lesions, showing typical nodules and abscess formation with giant cells and granulation tissue.

Dr. Hans Zinsser studied the case

reported by Brewer and Wood, (*Annals of Surgery*, Dec., 1908). The nodules resembled roughly fresh miliary tubercles, ranging in size from minute points to pin-heads. The lesions in the abdominal lymph glands consisted of large, hard nodes, the changes being chiefly of a productive type a moderate amount of connective tissue surrounding masses of blastomycetes. The spleen showed a great number of giant cells with peripherally situated nuclei. In animals showing lessened resistance to the infection, there was very little giant cell formation and more necrosis, than in those animals which had to be killed. The lesions in the lungs of guinea pigs killed after 4-5 weeks consisted of a central area, composed of parasites of varying size, some budding, others showing no break in the extraneous capsule. In some instances they were close together, giving the appearance of infarcts, but under the microscope these areas seemed to be due to collapsed alveoli. As Gilchrist had previously observed, giant cell formation was less active in the lung than in other tissues.

The literature of the pathological aspects has been reviewed by Richetts, (*Journal of Medical Research*, new series, I, 1901, 374); Buschke, (*Bibliotheca medica*, 1902); Bassoe, (*Journal of Infectious Disease*, III, 1906, 91). and Coley and Tracy, (*Journal of Medical Research*, new series, XI, 1907, 237).

*The lesion*—Blastomycotic dermatitis has been described, first by Wernicke in 1892. The fungus produces lesions similar to those met with in lues, tuberculosis and mycosis fungoides. It is usually necessary to resort to the microscope to complete the diagnosis. The lesion usually commences as small papules, which



may coalesce and become covered with a scab. The border is usually thickened with fungus-like projections. Between the elevations pus may form, or exudate occur in sufficient quantity to dry into a large crust. It resembles lupus in that cicatrization may be going on at inferior points while the lesion is encroaching around the margin. The course is chronic. Lesions in the mouth and especially of the lips have been recognized. The point of entrance of these vegetable organisms is still unknown; the skin, however, is not necessarily the only tissue invaded.

CASE I.—Mrs. D—, of Mattituck, L. I., a married woman of forty-five years, experienced pain in the region of the right breast, in March, 1908, made worse by

size of an egg, advanced toward the median line and migrated downward. In November an abscess in the right inner quadrant was opened, with temporary fall of fever; later two more near the mid-line over the sternum were opened. The discharge from the upper sinus persisted despite all treatment instituted by the country physician; the lower two being more amenable to treatment, not, however, having entirely healed. The patient had lost thirty-three pounds during the week, felt very weak and had a slight cough. Dr. Hallock was called to her country home and advised her removal to St. Luke's. She was admitted to the service of Dr. Robert Abbe, on March 11, 1909, complaining of multiple sinuses of the chest wall with persistent discharge from the upper tract. On admission the patient had a temperature of 101 degrees F., pulse 112, respiration 24. A blood examination showed a normal numeric leucocyte count and a normal differential count, red blood cells normal, hemoglobin 80 per cent. The urine showed a very faint trace of



FIG. 1.

stooping over and upon taking a deep breath. She localized it in the chest muscles of that side. This continued for a few days, when a small swelling was observed in the upper mammary quadrants; this disappeared entirely with alleviation of pain. In June the patient was suddenly taken with a violent frontal headache. She did not vomit or bleed from the nose. This was followed by a moderate fever which persisted. In the course of this, which was diagnosed as typhoid fever, constipation and weakness were features. In August the breast swelling reappeared, became painful as before, developed to the

albumen and a few hyaline casts. Our physical examination showed a poorly nourished, delicate, middle-aged woman, of extremely nervous temperament, medium frame. Skin and mucous membrane pale. On examination of the chest wall, the mouths of three sinuses presented themselves, one at the upper and inner breast quadrant on the right side and two near the right border of the sternum. There was no discharge from these. A probe introduced showed the existence of a communication between the lower and middle tracts. Injection of methylene blue showed that all three communicated. No bare bone



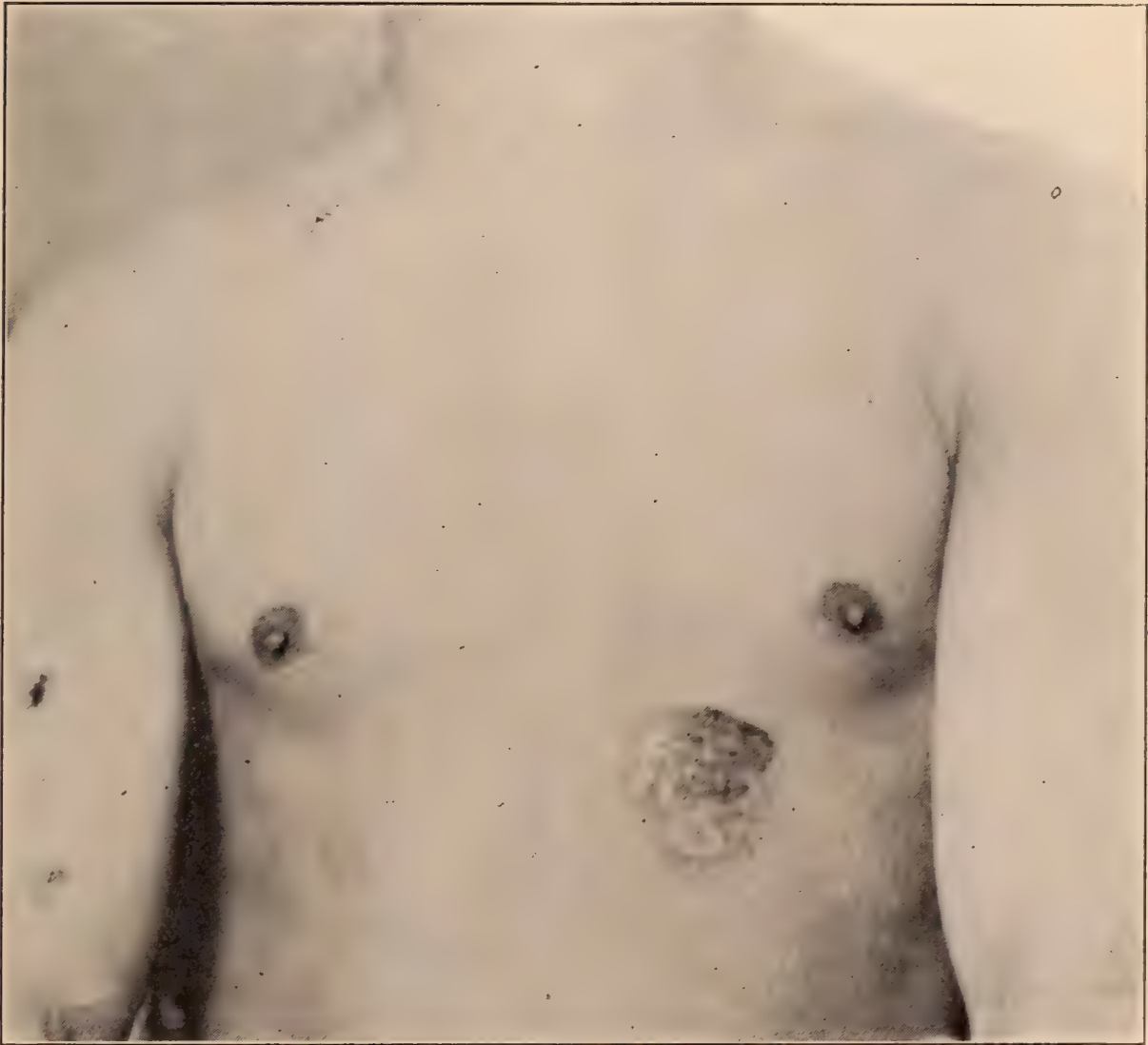


FIG. 2.—Photograph of patch of blastomycosis in Case II.



could be felt. Heart, lungs, abdomen and extremities were normal.

A Widal taken on the third day showed very slight clumping with active persistent motility in three dilutions, at 1:20, 1:40 and 1:80. Under ether narcosis, on March 15th, Dr. Abbe made a four inch incision connecting the three sinuses, turned the breast downward and outward, reflected the muscles and exposed the bony chest-wall. The second rib, three inches from the chondral junction, was found bared of periostium for a short distance at the inferior border, and the seat of a small purulent collection. The upper tract led to this situation. Rib resection was performed at this point. The tracts and chest wall were thoroughly curetted, the breast turned back into place and the wound packed with yellow gauze. The first report on the cultures made from the rib abscess was staphylococcus; later the same cultures developed blastomycetes. Microscopic examination of the granulation tissue revealed the same. A persistent temperature, weakness and a very slowly granulating wound kept the patient in the hospital. On the twenty-fifth day after operation diarrhea set in. There were from four to eight loose stools a day, causing much prostration, persisting for eighteen days despite colon irrigation, bismuth and lead and opium pills. Cultures were made to determine the cause of the diarrhea if possible. The ordinary colon group was isolated. No typhoid organisms or parasites were found. Up to the onset of diarrhea the patient had received potassium iodide in gradually increasing doses up to 21 grains a day. This was stopped and diarrhea has not since returned. On the thirty-second day a perirectal abscess developed: incision evacuated a very small amount of pus. Cultures made from this pus were negative for blastomycetes. Mrs. D— when last seen, showed a nicely granulating area on right chest about three inches long and one and one-half inches in width. There was still an uncovered area of cartilage, and bare bone could be felt at site of resection. The temperature was 100 degrees F. having come down on the forty-seventh day after operation. Previously it had persistently risen, ranging from 102-104 degrees F. She felt much improved and had gained strength after the cessation of the diarrhea.

CASE II.—N. R., Italian laborer, thirty years of age, entered St. Luke's on April 12, 1909, with painful, discharging swelling on left side of neck, growth about left eye. The swelling was of five days' standing, became so painful could scarcely open jaws. Pus was evacuated day before admission, at New York Dispensary. Two weeks previous a similar condition on right side was opened and has since partially healed. Two months and a half ago first noticed a small popular growth at the inner angle of the left eye. It became painful and has been increasing in size. It was incised four weeks ago.

He was referred to Dr. Abbe's service by Dr. Austin W. Hollis. Our examination on admission revealed a well-built, healthy-looking Italian with a rough growth at the inner canthus of the left eye covered with small wart-like masses, varying in size from the head of a pin to a pea. It involved one-third of upper and lower lids extending toward the bridge of nose and down over cheek a short distance. Border was rough, well demarkated, growth was not ulcerated and did not bleed easily. It was somewhat darker in color than surrounding skin and rather firm in consistency. At inner canthus lids were thick and a yellow discharge escaped. There was some ptosis and the fissure was narrowed. Just below and to the inside of left nipple was an irregular circular-shaped area equal to about two square inches, not elevated, beefy red in its upper part, fading into pink with pigmented border one-eighth of an inch in width at lower part where cicatrization appears to have occurred. Upper part showed some dry scabs and a little induration. No discharge or local heat, well-defined border. Both sides of neck showed swelling presenting openings which discharged pus. Size of left, large as an egg, situated at angle of jaw, tender and red, with local heat and marked induration. Swelling on right side size of a walnut. The heart showed a soft systolic murmur. The lungs were clear. There was no leucocytosis. For the first nine days there was a temperature, ranging from 100-102 degrees F., as high as 101 degrees F., for three successive days after which it dropped to 100 degrees F. Our diagnosis lay between an epithelial new growth and lupus. The latter was strengthened by a somewhat suggestive Von Piroquet vaccination test, but at this time the tissue removed from the inner canthus was reported by Dr. Wood to be blastomycosis. The smears taken from the neck abscess showed streptococci and blastomycetes. Treatment consisted in the internal administration of potassium iodide, application of iodide to the eyelid and wet dressing to abscesses with drainage, no active surgical procedures having been instituted. When the patient was last seen the lesion about the eyelid showed almost complete cicatrization, leaving a smooth red scar. At the upper border, however, there were a few fine scales clumped into small crusts. The area on the chest wall was no longer so beefy red, and showed an increased pigmented border. Microscopic section of this tissue showed no blastomycetes. The swelling on the left side still continued to discharge pus, the induration had increased and showed signs of spreading behind the sternomastoid muscle. The swelling on the right side had practically disappeared.

The writer acknowledges the courtesy of Dr. Robert Abbe.



## LONG ISLAND MEDICAL JOURNAL

A Forum for the Discussion of all Topics involving the Medical Profession and especially that of Long Island.

EDITOR-IN-CHIEF

PAUL MONROE PILCHER, A.M., M.D.

ASSOCIATE EDITOR

JAMES MCFARLANE WINFIELD, M.D.

EDITORIAL OFFICE:

386 GRAND AVENUE, BROOKLYN, N. Y.

Further Information on advertising page 3

NOVEMBER, 1909.

### ETHER DAY AT THE MASSACHUSETTS GENERAL HOSPITAL.

BOSTON is justly proud of its "Ether Day" celebration which commemorates the operation performed on October 16, 1846, at the Massachusetts General Hospital, by John Collins Warren, upon the patient Gilbert Abbot, who was anesthetized with ether by William Morton.

The day marked the first successful demonstration of the use of ether as an anesthetic in surgical work, but the story of the original conception of surgical anesthesia, and its final acceptance by the Surgical world, is filled with bitter controversy.

In an address delivered at the Massachusetts General Hospital on the sixty-second anniversary of "Ether Day", William H. Welch, of Baltimore, gives Dr. Crawford W. Long, of Georgia, the credit for the first trial of anesthetic inhalation for surgical operation.

"The honor of making the first trial of anesthetic inhalation in surgical operations belongs to Dr. Crawford W. Long, a respected and honorable country doctor, then living in Jefferson, Jackson County, Ga., who, in March, 1842, removed painlessly a small tumor from the neck of James M. Venable, anesthetized by ether. He seems to have performed at least eight minor surgical operations during the next four years upon patients under the influence of ether. Dr. Long is necessarily deprived of the larger honor, which would have been his due had he not delayed publi-

cation of his experiments with ether until several years after the universal acceptance of surgical anesthesia. It is also to be regretted that his published details of the mode of administering the ether and the depth of the anesthesia are so meagre and unsatisfactory."

It was not, however, until the publication of an article on the subject by Marion Sims, in 1877, that any credit was given to the claim of Dr. Long. Previous to this time the discovery was generally assigned to Horace Wells, a dentist of Hartford, Conn. Wells had used nitrous oxide in extracting teeth, but when he tried to demonstrate its use before a surgical clinic in January, 1845, the test was a dismal failure. There is no doubt, however, that he was successful in its use in his own practice.

The first practical demonstration of the use of ether as an anesthetic was made by Morton in October, 1846, but the controversy between Charles T. Jackson and William Morton leaves us undecided concerning their respective shares in this event.

Welch in his address says:

"Morton undoubtedly received helpful suggestions from Jackson, who was a highly-trained and eminent chemist and geologist. It is not wholly clear to what extent these contained information not accessible elsewhere, but the evidence seems conclusive that Morton was indebted to Jackson for valuable information, which the latter had acquired by personal experience four years earlier concerning properties of ether, strongly suggesting its availability for surgical anesthesia; also for suggesting the use of chemically pure rather than commercial ether, and for apparatus for administering the ether. There is, however, good evidence that Morton, while reaching out for all the information and assistance which he could obtain from different sources, acted independently and conducted experiments and tests with ether upon his own initiative, and in accordance with his own ideas. The supposition appears to me irreconcilable with the facts that he was merely a hand to execute the thoughts of Jackson."

In writing of the great discovery Oliver Wendell Holmes says:

"The knife is searching for disease, the pulleys are dragging back dislocated limbs,



nature herself is working out the primal curse which doomed the tenderest of her creatures to the sharpest of her trials, but the fierce extremity of suffering has been steeped in the waters of forgetfulness, and the deepest furrow in the knotted brow of agony has been smoothed forever."

In closing his address Dr. Welch quotes the words of John Collins Warren, spoken soon after the event which is celebrated as "Ether Day", and it is worth repeating:

"A new era has opened on the operating surgeon. . . . If Ambrose Paré and Louis and Dessault and Cheselden and Hunter and Cooper could see what our eyes daily witness, how would they long to come among us and perform their exploits once more. And with what fresh vigor does the living surgeon, who is ready to resign the scalpel, grasp it and wish again to go through his career under the new auspices."

### OCTOBER MEETING OF THE ASSOCIATED PHYSICIANS OF LONG ISLAND.

**A**LTHOUGH the day was not a pleasant one, still the meeting held at Rockville Centre on October 23d was well attended.

Those who arrived on the early trains were transported by automobiles to Long Beach, where they were entertained by the resident physicians.

The meeting was called to order at four o'clock. The report of the Board of Directors was read, in which the question of changing the character of the June meeting was discussed, it being finally decided to leave the matter entirely in the hands of the committee on the scientific program as has always been the custom. The Board of Directors also decided that the books sent to the JOURNAL by publishers should remain the property of those to whom they are sent for review.

Three interesting papers were read before the Association, and were well discussed.

After the meeting, dinner was served at the hotel, and was attended by about eighty members.

## MEDICAL NEWS.

EDITED BY JAMES M. WINFIELD, M.D.

**Suffolk County Medical Society** held its annual meeting at Riverhead October 28th. The scientific program was as follows:

President's Address by Dr. M. B. Heyman, of Central Islip.

"Sanitary Investigation of Oyster Production and Distribution and their Significance," by Dr. H. D. Pease, of New York.

"The Proper Attitude of the General Practitioner Toward Venereal Disease—Diagnosis and Treatment," by Dr. A. L. Wolbarst, of New York.

**Too Many Doctors**—The Coroner's office of Queens County, is over supplied with physicians.

By some oversight three physicians were appointed to the Coroner's

office while the City Charter allows only two; consequently Comptroller Metz has held up the salary of Dr. T. J. Flynn.

The matter is before the Courts for decision.

**Dr. M. A. Cohn** was seriously injured by the over turning of his automobile October 17th.

**Drs. Lewis S. and Paul M. Pilcher** announce that after January first next the whole of their building on the corner of Gates and Grand Avenues will be used for their surgical work. The rooms upon the first floor will be used for consultations, examinations and dressings, and the remainder of the building will be given up to a series of pri-



vate rooms for surgical patients and the necessary rooms for operative uses. During the time required for making the necessary changes they will occupy offices in the Vendome, 363 Grand Avenue, northeast corner of Gates Avenue.

**Dr. Walter A. Sherwood** announces his return to Brooklyn. In the future he will limit his practice exclusively to *general surgery*. He has established his office at 289 Garfield Place.

**Dr. John Edward Jennings**, 164 Halsey Street, Brooklyn, announces to the profession that hereafter he will confine his practise to surgery.

#### HOSPITAL APPOINTMENTS.

**Dr. Charles G. Molin** has been appointed Visiting Physician to the Swedish Hospital.

**Dr. Joshua Ronsheim** has been appointed Associate Visiting Dermatologist to the Jewish Hospital.

#### CHANGE OF ADDRESSES.

**Dr. M. A. Cohn** has removed to 458 Stone Avenue, Brooklyn.

**Dr. J. Halperin** has removed to 211 Christopher Avenue, Brooklyn.

**Dr. Rudolph F. Herriman** has removed to 1075 Bushwick Avenue, Brooklyn.

**Dr. F. P. Jenks** has removed to 466 Third Street, Brooklyn.

**Dr. Michele Lanza** has removed to 195 President Street, Brooklyn.

**Dr. William Lintz** has removed to 907 St. Marks Avenue, Brooklyn.

**Dr. Edward James McEntee** has removed to 196 Hancock Street, Brooklyn.

**Dr. Robert Emory Moore** has removed to 118 Lafayette Avenue, Brooklyn.

**Dr. Edward J. Morris** has removed to 488 Ninth Street, Brooklyn.

**Dr. Frederick J. Shoop** has removed to 230 St. James Place, Brooklyn.

**Dr. William H. Slaughter** has removed to 1406 Avenue H, corner Rugby Road, Brooklyn.

**Dr. Frederick Tilney** has removed to 161 Henry Street, Brooklyn.

**Dr. Emory M. Wadsworth** has removed to 103 McDonough Street, Brooklyn.

**Dr. Alfred M. White** has removed to 360 Halsey Street, Brooklyn.

**Dr. Otto Frischbier** has removed to 690 Bushwick Avenue, Brooklyn.

**Dr. Walter B. Chase** and **Dr. Carroll Chase** have removed to 1050 Park Place, Brooklyn.

**Dr. F. W. Wunderlich** has removed to 8 Sidney Place, Brooklyn.

#### DEATHS.

**Dr. Gilbert H. Swezey**, of Yaphank, L. I., died at North Falmouth, Mass., October 6, 1909.

**Dr. Louis A. Whitehouse**, of 631 Lafayette Avenue, Brooklyn, died August 18, 1909.

**Dr. James J. Babington**, of 81 Reid Avenue, Brooklyn, died September 27, 1909.

#### BOOKS RECEIVED.

**Principles of Bacteriology.** By A. C. ABBOTT, M.D. Eighth Edition. Lea & Febiger.

**Obstetrics.** By DAVID J. EVANS, M.D. Second Edition. Lea & Febiger.

**A Practical Treatise on Diseases of the Skin.** By JAMES NEVINS HYDE, A.M., M.D. Eighth Edition. Lea & Febiger.

**Minor and Operative Surgery, Including Bandaging.** By HENRY R. WHARTON, M.D. Seventh Edition. Lea & Febiger.

**Protozoology.** By GARY M. CALKINS, Ph.D. Lea & Febiger.

**Surgical Diagnosis.** By EDWARD MARTIN, M.D. Lea & Febiger.

**Practical Therapeutics.** By HOBART A. HARE, M.D., B.Sc. Thirteenth Edition. Lea & Febiger.

**Principles and Practice of Medicine.** By ARTHUR R. EDWARDS, A.M., M.D. Second Edition. Lea & Febiger.



# TRANSACTIONS

## OF THE

### BROOKLYN SURGICAL SOCIETY

*Regular Meeting, May 6, 1909 (Continued).*

The President, C. H. GOODRICH, M.D., in the Chair.

#### **RIEDEL'S LOBE OF LIVER COMPLI- CATING GALL STONES.**

DR. E. H. FISKE reported the following case:

A woman, 62 years of age, was admitted to King's County Hospital November 17, 1908, with sprain of ankle. After two days of constipation she had a large movement of the bowels with considerable pain. Pain continued very intense, and morphia was administered. Abdomen tender in right lower quadrant. Board-like rigidity of right rectus, all muscles so rigid palpation negative. Temperature 98.2 degrees; pulse, 80, and weak. S.S. enema given and not effectual. Repeated six hours later, fairly effectual. Pain, tenderness and rigidity unimproved.

Operation revealed a greatly enlarged and distended gall bladder. Lowest extremity extended down on right side to below the level of ant. sup. spine. Adherent to gall bladder was a tongue-like lobe of liver, which in length was almost equal to bladder, being one finger's breadth shorter. From costal margin to tip of mass measured 16 cm.; from level of umbilicus 8 cm., and it extended 2 cm. below level of ant. sup. spine. The tongue-like liver lobe, after being separated from adherent gall bladder was found to be wedge-shaped, point being directed downward.

Having walled off tumor, gall bladder was drained of 11 ounces of a viscid greenish fluid, and a medium-sized stone was found lodged in orifice of cystic duct, and removed. Ducts examined and found clear. Appendix removed. Gall bladder attached to abdominal wall and drained.

When patient left hospital, four weeks after operation, the Riedel's lobe had contracted down to about one-half its size at time of operation. Its lowest extremity could easily be palpated 6 cm. below costal margin.

#### **TYPHOID PERFORATION, MULTIPLE OPERATION.**

DR. E. H. FISKE reported the following case:

Patient, H. C., age 18, U. S., laborer, admitted to King's County Hospital medical service July 31, 1908. Diagnosis, typhoid fever. Widal positive. Diazo reaction positive. On admission, in addition to usual typhoid symptoms, patient complained of pain in right lower abdomen. Abdomen was moderately distended, there was tenderness and increased resistance to palpating hand in right inguinal region. Blood count: Leucocytes, 8,000; polymorphonuclears, 75 per cent. Pain continued and grew gradually worse, and on third day patient was referred to writer. Abdomen was distended, the right rectus muscle was rigid and there was a distinct tender mass at outer border of rectus on a level with ant. sup. sp. process.

No evidence of shock. Temperature, 102 4-5 degrees F.; pulse, 130. Increasing leucocytosis was evident from a second blood count.

Leucocytes, 10,000; polymorphonuclears, 78 per cent. A relatively high leucocyte count when we consider the leucopenia of typhoid.

Perforation was diagnosed. Operation, speaker and house staff. Incision at outer border of right rectus. Peritoneum opened. A small quantity of clear fluid present. The mass found on palpation was carefully surrounded with large pads



and a large quantity, about 5 ounces of pus and fecal matter evacuated. The mesenteric glands were everywhere enlarged. Twelve inches from ileo-cecal valve a round perforating ulcer,  $\frac{1}{8}$  inch in diameter, directly opposite mesenteric border was found. Perforation closed with double row of Lembert sutures, wound partly closed. Wick drainage. Time of operation, 34 minutes.

Patient recovered from anesthetic but condition gradually became worse. Vomiting became frequent, abdominal distention increased. Forty-eight hours after operation, vomiting became fecal, abdomen greatly distended, no evidence of peristalsis. Enemata of alum, ox gall, etc., and hypodermic use of eserine salicylate were of no benefit. Ether was administered and a rapid enterostomy performed. Examination of site of perforation showed no kinking. Coaptation of suture line perfect. Time of operation, 12 minutes.

Saline administered intravenously and allowed to flow slowly into both loops at enterostomy opening. Eight hours following there was profuse gaseous and fecal discharge from wound, and pulse and general condition improved. For two weeks condition continued fair. Fecal discharge very profuse, little or no absorption of the food taken, so active was peristalsis.

In third week, pain began over liver, followed by appearance of a mass at costal margin which extended down to upper extremity of wound. This mass was incised and about one pint of creamy pus evacuated from a cavity extending up under ribs to diaphragm, this was drained with tube.

From the twentieth to the forty-fourth day condition continued bad. Inanition extreme, discharge profuse and pulse ranged from 140 to 150, never below 120. Two attempts were made to close fistula with sutures after edges had been freshened.

On the forty-fourth day resection was performed, the fistulous gut excised, and cut ends anastomosed with a Murphy button. Time, 20 minutes. Ether anesthesia. Site of perforation completely healed, no evidence of Pagenstecher sutures. Improvement from then on was rapid, and on ninth day button was passed.

Ten weeks after admission to hospital patient was discharged, greatly improved. Pus accumulated, however, in cavity under diaphragm and on November 18th patient re-entered hospital for incision and drainage. Rapid healing followed.

In fourth week of illness sternal end of clavicle became swollen. Swelling and slight tenderness continued until middle of December, when skin broke down and pus discharged.

Final operation performed December 31st, curettement of necrotic sternal end of clavicle, with rapid recovery.

Patient is now in perfect health, has gained 60 pounds, and wounds all healed.

#### *Remarks.*

Symptoms of perforation all present, with exception of shock, which was entirely absent. Increasing relatively high leucocytosis was determining factor in decision to operate.

Perforation was a gradual one. The fecal contents were walled off by adhesions and exudate, hence general peritoneal cavity was free. Which fact explains absence of shock. This abscess would undoubtedly have ruptured into general cavity and in a short time, had not operation been performed.

The obstruction occurring post operation was promptly relieved by enterostomy.

The speaker felt that the radical means of closing fistula could with benefit have been employed earlier. Temporizing with suturing without resection being futile.



## GUN SHOT WOUND OF HAND AND ARM.

DR. E. H. FISKE related the following case:

C. L. C. Age 35. Occupation, house mover.

Patient while gunning had an accidental discharge of No. 2 shot pass through left arm, just below elbow, and into the dorsal surface of right hand, which was resting on arm. The following injuries were produced:

1. Extensive laceration of muscles at upper portion of left forearm and lower third of arm. Comminution of both bones of forearm and of lower quarter of humerus. Destruction of bone, muscle, etc., was so extensive that amputation of arm was completed at about middle of humerus.

2. Dorsal surface of right hand. Comminution of most all of carpal bones, laceration of extensor tendons of middle, ring and index finger; comminution of proximal half of fourth and fifth metatarsal bones.

Portions of cuneiform, os magnum and semilunar bones were removed, together with the bases of the fourth and fifth metatarsal bones. Parts were cleansed, extensor tendons sutured. Hand drained dorsally and by a counter incision through palm. In all, seventeen shot were removed from hand, and careful search with finger and probe failed to disclose other shot about parts.

*Treatment.*—1,500 units of tetanus antitoxin administered. Bier hyperemic bandage applied to right arm as high as possible for twenty-three hours each day. Stump healed by primary union.

Hand healed slowly, no sloughing of tendons, and four weeks after operation patient left hospital, with wound completely healed.

A radiograph taken two days after admission showed several shot still in hand. At time of dressings search was made for these, but they could not be found without more interference than was deemed justifiable.

### *Points of Interest.*

1. The lower part of left arm,

elbow joint and forearm were beyond recovery, hence amputation.

2. The right hand was apparently hopelessly macerated, yet recovered.

3. The application of the Bier bandage certainly seemed of great benefit in making possible the recovery of injured part.

4. The presence of several shot in hand at present time causing little if any discomfort.

5. It seems advisable to allow them to remain in hand until they produce trouble, then their removal through small incisions seems practical.

6. Usefulness of hand.

## FECAL FISTULA DUE TO FISH BONE.

DR. E. H. FISKE reported the following case:

A. St. J. Age 33. U. S. Transferred to King's County Hospital from Long Island State Insane Asylum, in which institution he has been an inmate for several years, having dementia precox.

On admission to hospital complained of pain in right lower quadrant of abdomen. A tender mass, about the size of an orange, was palpable in appendical region. Right rectus very rigid, left rectus slightly so. Temperature, 101 2-5 degrees. Pulse, 84. Blood count, leucocytosis, 15,000. Polymorphonuclears, 87 per cent.

*Operation, Dr. Bristow.*—Incision over mass; abscess containing several ounces of fecal smelling pus evacuated. As cavity was being sponged preparatory to drainage being instituted, a small fish bone, about one inch in length and about the diameter of a pin, was found in wound. Wound was drained. Patient recovered from operation, but wound showed no tendency to heal, the discharge continued more profuse each day until it became solely intestinal contents, skin became very much excoriated and patient gradually lost weight and strength.

Dr. Bristow having left town immediately after first operation, patient fell to speaker's care. Nineteenth day after original operation the site of



fistula was exposed through old wound. Opening in bowel found to admit two fingers. The gut for about two inches on either side was excised between Moynihan clamps, and the cut ends anastomosed by means of Pagenstecher thread, applied after the method of Connell. Reinforced with a running Lembert. The entire fistulous tract in abdominal wall excised. Abdominal wall sutured in usual layered manner. Wound became infected and was resutured. At no time was discharge profuse or fecal in character. Nine weeks after operation patient was returned to L. I. S. A., with but a small fistulous tract, about one-half inch in depth, unhealed.

*Points of Interest.*—No clinical history available before admission, due to patient's mental condition. Typical symptoms of appendicular abscess, pain, tenderness, rigidity and mass in region of appendix. The perforation originally small, gradually increased in size until it was sufficiently large to admit two fingers.

Apparent perfect closure of gut by resection and anastomosis, which was easily performed by Connell method.

#### *Abstract of Discussion.*

DR. H. B. DELATOUR called attention to the necessity for looking for more than one point of perforation. He had three cases recently in which he had operated and found multiple perforations in two of them, and in one case while there was only one perforation actually through, there were two other points in the intestine six to eight inches away that were practically on the point of perforation. There was nothing but the peritoneal coat left. He had two cases recover.

In all the cases he operated, the perforation had been about an eighth of an inch in diameter. In placing sutures you will find the area involved beneath the surface is much greater, and you have to go well beyond the point of perforation in order to get sufficiently sound intestinal wall to hold the sutures.

DR. LEWIS S. PILCHER recalled an instance under his observation during the War of the Rebellion in a hospital to which he was attached. He had a man who for eighteen months discharged the duties of wardmaster in the hospital, who had been brought to the hospital after having been attacked in a bushwhacking party and having received sixty different buckshot wounds, nearly all of which remained imbedded in his flesh, and up to the time when he lost sight of him they were still there and producing no trouble.

#### **REMOVAL OF FLOATING CARTILAGE FROM THE KNEE JOINT.**

DR. C. P. GILDERSLEEVE said his patient was a woman, aged 71 years. Three years ago she was seized with sudden pain in the left knee and could not straighten the leg. She called in her family physician who diagnosed the condition as a dislocation of the semilunar cartilage. He reduced same and she got prompt relief, remaining in bed two days. Then she got up and had no more trouble for several weeks. Since then she has had fifteen or twenty attacks, but always succeeded in taking care of herself until this last attack for which he operated, history of which follows:

February 6th, while turning over in bed using the heel as a lever, the knee gave way. She sent for the family physician who could not reduce it. He saw her February 28th, found the knee locked in a slightly flexed position. The patient had a large fat knee and the bony points could not be outlined particularly well. He diagnosed a dislocation of a semilunar cartilage, tried to reduce same, but failed. He advised rest in bed, and hoped that it would reduce itself. It did not, however, and he operated March 16th, removing a piece of floating cartilage which he passed around for inspection. The patient got out of bed in four weeks and now gets about with a cane. The semilunar cartilages were in place, but loose bodies were floating about in the joint.



### GROWTH OF BONE AFTER AMPUTATION.

DR. C. P. GILDERSLEEVE presented a boy eight years of age, who had sustained a compound fracture of the forearm. Emphysematous necrosis set in a few days afterward, due to infection with the bacillus aerogenes capsulatus. He amputated at once high in the upper fourth of the humerus. He left the wound open and got a good stump. The boy was sent to him a year ago (now eighteen years old) for the purpose of determining whether or not a reamputation should be performed for a marked increase in the length of the bone. He found that the bone had increased in length about four inches and was covered to that extent by nothing but thin overstretched scar tissue. As the boy said it did not trouble him he advised letting it alone.

### FOREIGN BODY IN THE ESOPHAGUS.

DR. R. DURHAM said that last fall a man awoke from sleep with the sensation of swallowing his false teeth. He made an effort to reach them with his finger, but in his fright pushed them farther down. A physician who was called endeavored to grasp them with what instruments he had with the result the teeth got a little further back and lower down. An ambulance was called and he was brought to the Seney Hospital. The house surgeon endeavored to reach them with the instruments at hand. Not being able to reach them he tried a bougie to push them down.

Twelve hours later the throat was anesthetized with cocaine. A probang was introduced, the bristles spread, engaging a metal projection of the teeth and the specimen came out without any trouble.

### DISEASES OF THE GALL BLADDER. THREE CASES.

DR. R. DURHAM reported these cases as follows:

CASE 1. Male, aged 38 years. Present attack consisted of severe pain over McBurney's point. On examination the patient was found with a temperature of 101 degs., pulse

120. He was not jaundiced. A decided mass was found near McBurney's point. Blood examination, white 12,700, polymorphonuclears, 77 per cent. The usual gall bladder incision was made, and the gall bladder found to contain a large quantity of bile and pus. No stones were found at the time. A tube was inserted, the gall bladder sewed to the wound and the man made a good recovery. No bile was discharged through the tube at any time following the operation. The wound closed at the end of five weeks. During the next six months the wound broke down on three occasions and discharged thick mucus without any color to it. Six months later he came to the hospital with an attack of pain in the same region. The entire scar was dissected out and a small contracted gall bladder removed. No stones were found in the gall bladder. The cystic duct was obstructed. The man recovered.

CASE 2. Woman, 49 years. During last 25 years had had attacks with severe pain in the right hypochondrium. Attacks had been growing more severe. Had an attack two days before admission with jaundice and clay colored stools. Leucocytes 23,800, polymorphonuclears 90 per cent. in contrast to a temperature of 99 degs.

Incision was made through the right rectus and mass of dense adhesions revealed, which were separated with difficulty. The gall bladder was found, the adhesions separated, and in what appeared to be the cystic duct were found two large gall stones. The gall stones were firm in the adhesions and could not be easily moved. After considerable effort they slipped down, and it seemed they slipped into the intestine through a dilated common duct. No bile came through the tube following the operation. She went home at the end of three weeks and remained well for ten days when she had an attack similar to the first.

In the third attack with jaundice, severe pain and clay-colored stools.



She was brought to operation. The findings on operation were practically the same as on the previous operation. Dissection was made around the old scar, and the gall bladder exposed. The more recent adhesions were parted with ease, but where the gall stones were found before were felt two gall stones. On dissecting through the adhesions the lower cavity proved to be a second portion of the gall bladder which was separated by a constricted portion. The stones had been merely pushed from the upper portion of an hour glass gall bladder into the lower.

CASE 3. Woman, 45 years, had pain in the right side six years, severe last six weeks. Two days before admission, attack of pain began. She was jaundiced with clay-colored stools, temperature, 102 degs., pulse, 120, leucocytes, 35,000, polymorphonuclears, 75 per cent. The gall bladder was incised and dense adhesions surrounding it freed with difficulty. The gall bladder was opened at the top, and about two drams of pus with no bile color came out through the incision. This gall bladder had an hour glass constriction and in the second portion there was no bile but some pus. The gall bladder was removed and after a few days there was a profuse discharge of bile through the drainage tube. This persisted for six weeks when the bile stopped discharging, and in ten days she was well.

#### PAPER: APPENDICITIS IN CHILDREN.

A paper with the above title was read by Arthur H. Bogart, M.D.

##### *Abstract of Discussion.*

DR. A. T. BRISTOW thought those who have much experience with the appendicitis of children must concur with what Dr. Bogart had said with regard to the relative mortality in children. One reason was, he believed, that suppuration occurs in children earlier than in adults.

With regard to the differential diagnosis between pneumonia and appendicitis he had more than once had very grave anxiety. He remembered

one case in particular in the person of a little girl of seven. When he saw her she had a temperature of 105 degs., her legs were drawn up and she was tender in the right iliac fossa. There was one symptom, which is always found in these cases, her respirations were 55. Very careful examination of the lungs failed to find any evidence of pneumonia, and yet, because these respirations were 55, and there was not a general peritonitis to give short respirations, he gave the opinion the child was suffering with a streptococcus pneumonia, which was central in origin and would, in the course of time, develop. The parents of the child were very anxious. Dr. Northrup examined her the next day carefully. There was some slight tenderness, a temperature of 105 degs. almost constantly, with the same acceleration of the respiratory excursion. He also was unable to find any evidence in the chest of a pneumonia, but came to the same conclusion he had previously. She subsequently did develop an undoubted pneumonia first on the right and then on the left side, and died with an average temperature between 105 degs. and 106 degs.

In this way there was no way of illustrating the symptom that seemed to be of value, that is this: In the pleural and pneumonia cases his experience has been, when you make gentle pressure on the abdomen, it is the superficial and not the deep pressure which gives pain, and if you allow your hand to rest quietly on the abdomen and gradually press, the deeper you press the less the child complains of pain, whereas superficial pressure will usually produce the pain. This point, he thought, ought to assist us in making the diagnosis between appendicitis and pneumonia.

A good many years ago he operated on a child in the County Hospital for appendicitis and took out a normal appendix. The child subsequently developed a pneumonia, and got well of it. They got no history of the case and were unable to bring out these points. Nevertheless, he thought, if he made use of these observations it



might have saved the child an operation.

He objected to the proposition of inserting a rubber tube. He thought there was nothing worse in the abdomen than a rubber tube. He did not know anything better calculated to make an intestinal fistula than a rubber drainage tube in contact with the intestine. He was willing to admit the cigarette drain is not as efficient as it might be, but it will not make a fecal fistula. After forty-eight hours he loosens up the drain to insert the nozzle of a syringe alongside the drainage and insert some peroxide. The next day he loosens up the drain a little more. He thought it bad practice to draw out a drain violently. He saw a septic pneumonia result from forcibly removing a drain. He finds that the peroxide finds its way alongside the drain and keeps the gauze fairly clean. He thought the only cases to be drained are walled-off abscesses.

To show how extremely treacherous this disease is in children, the older he grows and the more cases of appendicitis he sees, the less conservative he is. He believed sincerely that, unless there are other conditions in the patient, which make any operation undesirable, it is much safer to operate on a case of appendicitis as soon as you can make a diagnosis than it is to wait. In proper hands the risk of a clean operation for appendicitis is not 0.5 per cent. He thought this more true of a child, because they suppurate earlier than adults. By way of illustration he cited a case he saw a few days ago. A month ago he saw the child. The entire family had been made ill by eating some clam chowder. There had been some tenderness left in her case on the left side, with gripping pains, which appeared to be the result of an irregular peristalsis, the end result of the ptomaine poisoning. He advised against operation and the child got well.

He saw the child again Monday at two o'clock. The child had been attacked with some pain after eating some chicken, and the father thought

the child had overeaten. She was extremely hysterical, but did not complain greatly of pain, but was somewhat tender. He operated at five o'clock and found a condition of things startling. She had an appendix which reached into the pelvis, and which was adherent to the common iliac vein and artery. The whole appendix was so large when he brought it into view that he was not sure but that he was dealing with the ileum. The colon was denuded of peritoneum and thin in spots. He got the appendix out with difficulty. A drain was put in and, fortunately for the child, it turned out to be an ordinary colon infection.

The speaker said he entirely agreed with what Dr. Bogart had said with regard to the necessity of avoiding traumatism in children. The less traumatism there is the better for them, and the more you will conserve their resistance.

DR. T. B. SPENCE said it had been his experience that fecal fistula had followed the use of gauze drains and not rubber tubes. He was greatly in favor of rubber tubes.

DR. J. D. SULLIVAN stated that in his experience with appendicitis in children he had found the appendix proportionately larger in children than in adults.

DR. M. FIGUEIRA said he had used rubber drains in all kinds of cases and never saw a fistula produced by them. He thought that to say a fistula occurs after the use of rubber drainage was to reason *Post hoc ergo propter hoc*. He had used rubber tubing in hundreds of cases and fecal fistula had never resulted. In fact fecal fistula occurs in cases where no drain is used at all.

The speaker stated that it is better to operate on these cases as early as possible. If you operate on a case that is not appendicitis no harm is done, whereas if you delay in a case of appendicitis the patient may die.

DR. W. LINDER said that in practically every case he used a lumbar drain and brings out the rubber tube so that it is flush with the peritoneal cavity, and in that he inserts a piece of



gauze. As far as drainage is concerned a rubber tube drains better than gauze, and if we avoid pressure by bringing the tube out flush with the abdomen, we meet both ends.

DR. A. H. BOGART could not recall any case of fecal fistula which he felt was due to a rubber drain; those cases which he had seen were in his opinion due to diseased condition of the intestinal wall which was noted at the time of operation.

The trouble in these cases is not in the diagnosis, but in men not referring them to the surgeon soon enough. The last case he operated upon was diagnosed four days before coming to the hospital. Most men recognize their cases of appendicitis in children, but hold on to them too long for some reason or other.

#### DERMOID CYST OF OVARY.

DR. RUSSELL S. FOWLER presented a specimen which he said was very interesting from a diagnostic standpoint. The patient, 19 years old, gave a history of several attacks of appendicitis, and was sent to him with that diagnosis. On examination he found there was something besides appendicitis, on account of the infiltration of the pelvis, and while he was not able to make a more accurate diagnosis than a pelvic abscess, he might have done better from the fact that a few hours before operation, this cyst ruptured into the rectum and discharged some hair that came away with an enema which was given to her. This fact, however, was not reported to him until the operation had already disclosed the condition.

The point of perforation into the rectum was a triangular opening large enough to admit the tip of the little finger, and was within four inches of the anus. On account of the adhesions and the existence of a pus tube, in addition to the pelvic infiltration, it was not possible to sew over the hole in the rectum so he used the appendix for an artificial anus.

The operation was twelve days ago, and up to this time there has

been only a slight escape of thin pus through the abdominal wound; fecal matter and gas coming away from the appendical opening. On account of the septic conditions, it is possible that only a very slight amount of pus is escaping through the rectal wound, most of the discharge being necrotic material. The diet thus far has consisted of albumen water and plain water.

#### SUPRACONDYLOID FRACTURE AT THE ELBOW.

DR. W. S. HUBBARD, presenting a boy about ten years old, said that he had had a compound fracture of the humerus at the lower end. The boy came in from Long Island with a broken arm; he took him to St. John's Hospital and endeavored to put the arm in some kind of an apparatus that would hold it. Owing to the flesh wound it was not found practicable to use the classical position of extreme flexion; the right-angle position, with weight suspended from lower fragment, seemed to hold for a time, but radiograph showed poor approximation of fragments. At the end of a week the boy was given chloroform and the arm put in the extended position, with a two-pound sand-bag fastened by adhesive plaster to the hand and an anterior and posterior splint placed about the arm at the point of fracture, which seemed to retain the fragments in position. This dressing remained for four weeks, and within a short time after that the speaker had another picture of the arm taken, which showed the result of the setting. Radiographs taken before and after recovery were shown.

#### OPERATION FOR MOVABLE KIDNEY.

DR. RUSSELL S. FOWLER said this operation was brought to his mind by a procedure advocated by Da Costa of Philadelphia, in which he wraps gauze around the kidney and, after replacing the kidney, leaves the gauze in place for ten to fourteen days, then gradually withdrawing it through the wound.

It seemed to the speaker that in pulling out the gauze two weeks after



the operation was done, the kidney would be dragged out of position in the process, but he added that in this operation no sutures are employed; the further device that Da Costa used being to sew together with plain cat-gut the ends of the gauze strands lying under the kidney, and the cat-gut disintegrating in ten to fourteen days allowed the removal of the gauze. That seemed to Dr. Fowler to be a very logical procedure, with the exception of the direction of the traction when the gauze was pulled out, and also the fact that the kidney was not held by the gauze; it rested in the gauze and was subject to strain, as for instance, when the patient is lifted on a bed-pan the very motion of the body causes a contraction of the muscles and the diaphragm, so that the kidney is shoved down, and this early movement of the patient he thought was responsible for quite a number of recurrences of movable kidney.

The speaker thought that if the gauze could be put in such position as to hold the kidney solidly in place, that gauze kept in place for ten to fourteen days, and then removed in a direction not to pull the kidney downward but in an upward direction, the kidney would be maintained in its normal position. Instead of stitching the kidney to the soft parts, the speaker brought the gauze out between the ribs to hold the kidney more firmly in position, that is, he took four narrow strips of gauze, each strip about an inch wide, and sewed them together in the center to make a string of gauze two feet long; after freeing the kidney from its fatty capsule and delivering it into the wound, clearing off that part of the capsule which was around and in the neighborhood of the pedicle, and scraping the kidney with a piece of gauze to cause minute hemorrhages on the surface, also removing all the fatty capsule possible from the wound, he then passed around the lower pole of the kidney, which is just palpable below the ribs, a strip of this gauze and drew that up so as to make a sling around the lower pole of the kidney. The upper pole was treated

in the same manner, the two slings crossing each other. Where the strips crossed each other they were sewed with plain cat-gut so as to form a sling for the kidney, and the kidney was placed in position to rest against the diaphragm. The strips were brought out between the ribs, an incision made with a straight sharp-pointed bistoury, a pair of slender forceps was forced through the opening, and the edges of the gauze strip surrounding the lower pole were caught and drawn out. The lower piece of gauze being brought out from the original wound, so as to keep the kidney in a sling. The gauze was allowed to remain in place for fourteen days, and no difficulty was experienced in withdrawing it. The speaker stated that this worked very nicely for the primary case. The patient was in the hospital twenty-one days; fourteen days in bed.

In three cases operated on since then he has brought the lower sling of gauze diagonally upward around the kidney, and by making the strip of gauze broader and bringing it snugly to the kidney, the same effect was produced and with the same result. These cases were illustrations, Dr. Fowler said, that demonstrated the practicability of the procedure.

In order to avoid the possibility of injury to the kidney itself, before he put the kidney back he passed a clamp underneath the strip of gauze to make sure that it was not too tight and that the kidney was held firmly by the gauze.

DR. J. B. BOGART said that as to the operation for movable kidney described by Dr. Fowler, the criticism might be made that, in those cases in which the pleural sac comes down as far as the twelfth rib, the gauze, in passing up between the eleventh and twelfth ribs, may penetrate the pleural cavity and set up inflammation there. Again it did not seem to the speaker that the operation had any particular advantage over the usual one of incision of the capsule and suturing the kidney, passing the sutures as high up as possible—close up to the last rib. He thought the first objection was a rather serious one.



DR. RUSSELL S. FOWLER said he hardly thought injury to the pleura by the gauze was possible. The way in which he does the procedure is this: He passes his finger up inside the cavity and feels the inner surface of the ribs, and usually with the patient in the kidney position, the ribs are rather widely separated on the side being operated upon so that it is quite easy to pass a bistoury between them. He saw no danger of wounding the pleura.

On the point of suturing, when kidneys are sutured ordinarily, it has always seemed to him as if it were the object of the operator to place the kidney as near the loin as he could, not near the ribs where it belongs, and they also endeavor to suture it to the muscles of the wound. It is not possible to hold the kidney up near the diaphragm where the kidney belongs, unless the sutures or strips of gauze are passed through the chest wall covering the kidney.

#### SARCOMA OF SUPERIOR MAXILLA.

DR. J. S. WIGHT presented a man, 71 years old, German, who came to him June 25, 1906, and on examination he found a tumor in his mouth on the left side connected with the alveolar border of the superior maxillary bone on that side and extending evidently into the antrum. It was a tumor about the size of a walnut. The man gave a history of having suffered pain for the last three months, which was first noted while eating. He then put his finger in his mouth and found a growth there and that increased in size. Up to the time he saw him it increased quite rapidly until it attained the size he spoke of.

It seemed to be in the site of an old decayed molar tooth. He sent him to the hospital and operated on him and removed the left superior maxillary bone. He used the incision that was spoken of (or half of the incision, for it was a double incision) in the case Dr. Warbasse presented last spring. He carried an incision from the left angle of the mouth up to the malar bone. He then reflected back the flap, cutting through the cartilage of the nose until he had reached the root of the nose. On reaching the orbit he dissected the periosteum from the bone on its floor and then sawed through the nasal process of the superior maxillary bone, and then through the outer portion of the malar process of the superior maxillary bone. Then he used a Gigli saw, which he passed through the nasal fossa and out through the mouth, and then made an incision with the scalpel through the soft palate and along roof of mouth marking line of saw cut. Then he seized the whole mass, after detaching the muscles, with lion-jawed forceps, and it came out readily. A portion broke away at the site of the tumor. It was found to be a round celled sarcoma.

The man left the hospital July 16th. He has been about ever since. The speaker asked Dr. Russell to make a prosthetic plate for him, which he did, but unfortunately he made the plate quite early before the swelling had all gone down, and the plate does not fit. The patient's only difficulty now is that fluid regurgitates through the nose. At first he could swallow and talk plainly with the plate in position. Now the tissues are contracted down, so that the plate will not stay in position. There is no sign of recurrence.



# TRANSACTIONS

## OF THE

### BROOKLYN PATHOLOGICAL SOCIETY

*The 495th Regular Meeting, June 10, 1909.*

---

The 495th regular and the 41st annual meeting of the Brooklyn Pathological Society was held June 10, 1909, at the Library Building of the Medical Society of the County of Kings, 1313 Bedford Avenue.

The Vice-President, Dr. Edward E. Cornwall, was in the chair. The meeting was called to order and the minutes of the previous annual meeting were read and approved.

The report of the treasurer was omitted owing to the death of the late treasurer, Dr. Henry C. Keenan.

The report of the secretary, Dr. Crane, was a review of the scientific work done during the year 1908 and 1909, as well as a record of the attendance, general activity and growth of the Society. The report also included a summary and comparison of the attendance, general activity and growth from 1902 to 1909. The report indicated a very gratifying activity of the Society as a whole and a very unusual interest and activity on the part of a constantly increasing number of the members.

The following officers were elected for the ensuing year:

*President*—Dr. Edward E. Cornwall.

*Vice-President*—Dr. Claude G. Crane.

*Secretary*—Dr. Edwin H. Fiske.

*Treasurer*—Dr. Edward J. Morris.

Dr. Lee moved that the chair appoint a committee of three to draft suitable resolutions on the death of the late treasurer, Dr. Henry C. Keenan, and to have the same inscribed on the minutes of the Society and a copy sent to the family of Dr. Keenan. Carried. The chair appointed Dr. Lee, Webster and Blatteis as such a committee.

It was moved and carried that the regular yearly subscriptions be continued, namely, a subscription to three foreign medical journals in behalf of the Library of the County Medical Society; fifty dollars to the County Medical Society, and ten dollars to the janitor, Mr. Johnson.

There being no further business before the Society the meeting was declared adjourned.

Signed,

C. G. CRANE,  
*Secretary.*

119 Halsey Street.



# LONG ISLAND MEDICAL JOURNAL

VOL. III

DECEMBER, 1909

No. 12

## MASTOIDITIS IN SCARLET FEVER AND MEASLES

By HENRY A. ALDERTON, M.D.

BROOKLYN, NEW YORK.

**W**HATEVER may be the causative agent in the production of the disease called scarlet fever, which agent at the present time is unrecognizable, the consensus of opinion is that the inflammations of the ear are due, in the majority of cases, to the streptococcus pyogenes.

It seems to be fairly well settled that the ear may be infected either by contiguity of structure from the naso-pharyngeal cavity through the eustachian tube, an opinion favored by most of the general clinicians; or that the middle and internal ear may be infected as an integral part of the disease, without the interposition, necessarily, of a salpingitis—an opinion held by many aurists. The idea being, in the latter case, that the bacteria penetrate into the middle and internal ear by means of the blood and lymph channels, or indirectly from the subarachnoid space through the aqueductus cochlea, or from the subdural space through the saccus endolymphaticus. In many of the cases examined post-mortem, the normal condition of the cartilaginous eustachian tube lent strong probability to the view that the ear disease was a local manifestation of the general infection and not an extension of the infectious process to the ear from the throat.—Moos, Holger-Mygind and others. On the other hand, such good observers as Wagenhäuser and Barth believe that infection always spreads through the

eustachian tube from the pharynx. However, it is hardly possible to accept this contention, having due regard for the work of such men as Hartmann, Siebenmann, Moos, Bernhard von Gaessler, Rudolph and Bezold. Von Gaessler, from an investigation of twelve fatal cases of scarlet fever, found the middle ear, adjoining cavities and tympanic ostium of the eustachian tube involved in different degrees in every instance; yet, in all cases but one, the cartilaginous tube appeared normal—the deposit of membrane about the tube always ceased abruptly within the pharyngeal mouth of the tube.

To the writer it seems that those cases of otitis which develop early in the course of the disease are probably a local manifestation of the general infection, independent of the pharyngeal infection; and that those cases which develop late in the course of the disease are as likely as not to be the result of the extension of the naso-pharyngeal inflammation, by way of the eustachian tube, to the middle ear cavities and from thence, in certain cases, to the labyrinthine structures.

Probably in every case of scarlet fever the middle ear participates in the disease process to a greater or less degree. The internal ear may be affected either secondarily as a sequel to suppuration of the middle ear or primarily.

The pathological changes, accord-







these findings the writer coincides. However, there occur a goodly proportion of cases in which the otitis develops and perforation takes place with subsequent purulent otorrhœa and yet the temperature is practically uninfluenced; the rule, though, is as above stated. This rise is more apt to occur in the initial otitis, than just before the development of mastoiditis.

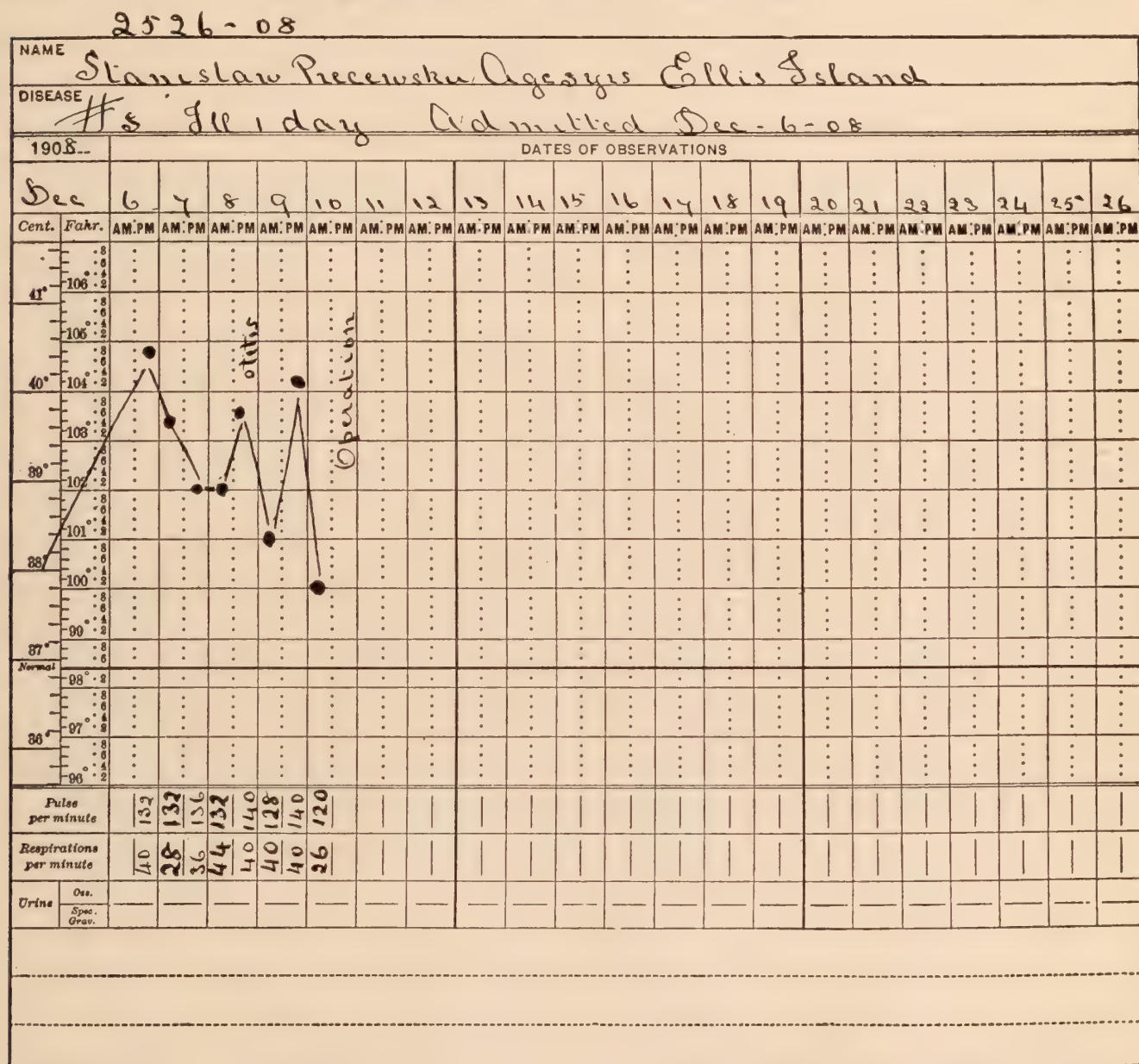
The otitis may make its appearance at almost any period in the course of the disease or during convalescence; the writer has seen it develop as early as the second day and as late as the sixty-fourth day; the majority of the cases, however, show evidences of the existence of this complication during the second and third weeks of the disease.

The otitis is frequently bilateral;

21 W-1909

KINGSTON AVENUE HOSPITAL.

21-518, '09, 7,500 (P)



Pain is usually complained of by children of sufficient age and intelligence; though in the early stages of scarlet fever, because of the mental hebetude, the patient is less likely to volunteer the information than later on in the disease when the mind is less affected by the febrile process. It may be absent. Hardness of hearing also makes its appearance, together with an increase in the general malaise.

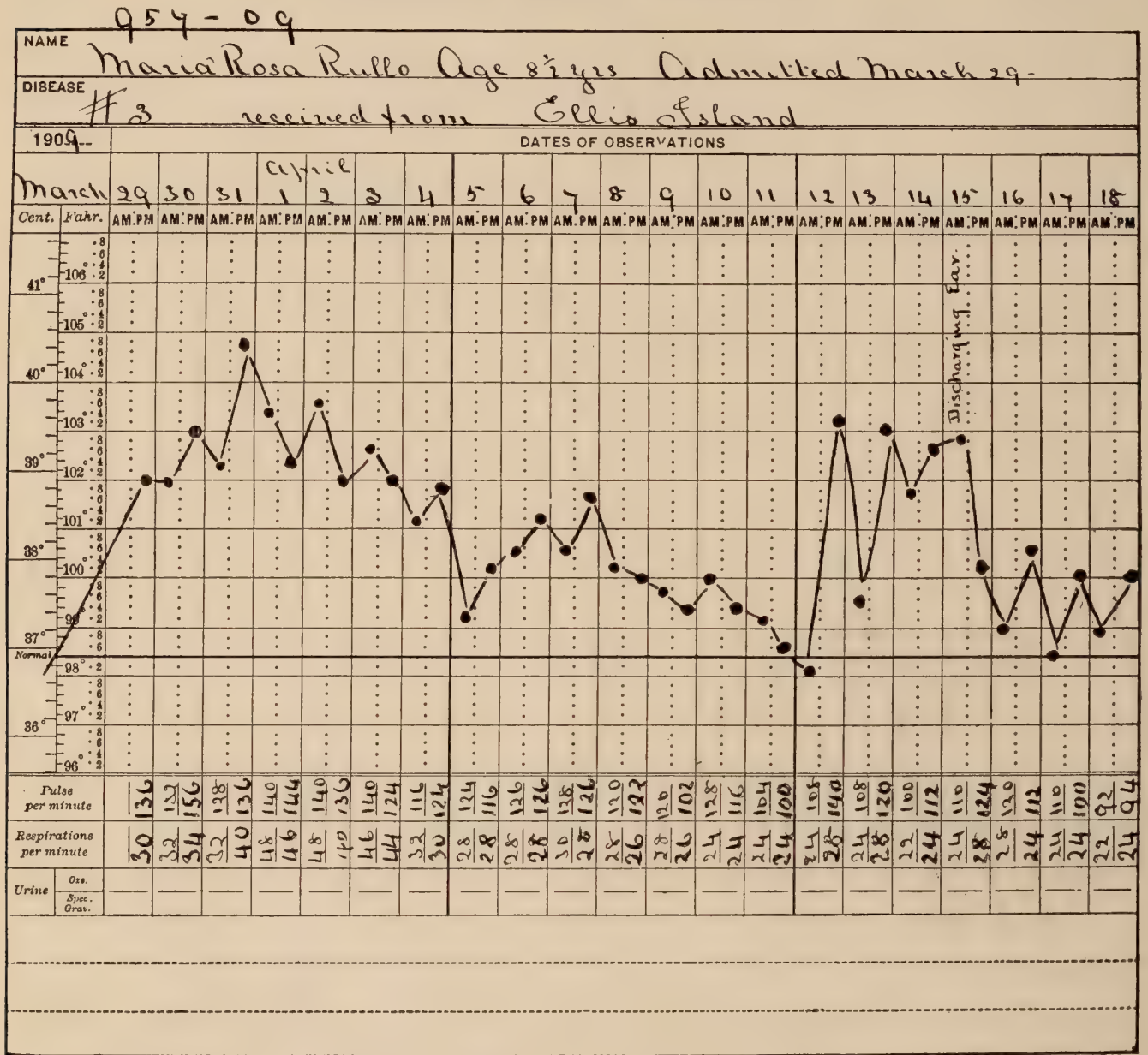
one ear often being affected sometime after the other, each attack being accompanied by the characteristic rise in temperature.

A scarlatinal otitis may bring about extensive destruction of any or all parts of the middle and internal ear, subsequently involving any of the circumjacent structures. Thus, erosion of the wall of the carotid canal, or of the sigmoid groove may lead to necrosis of the vessel walls, resulting



in fatal hemorrhage; facial paralysis is not so very rare; sinus thrombosis, meningitis and brain abscess are, at times, sequels to the purulent otitis. The most usual complication is mastoiditis; Osler's statement that the process rarely extends to the mastoid cells to the contrary notwithstanding. Thus, among the 178 cases scarlatinal middle ear suppuration observed by the writer, many developed symptoms

mastoid disease and the necessary operation, but rather to the fact that in the vast majority of the fatal cases other and serious complications existed, such as broncho-pneumonia, nephritis, endocarditis, enteritis (chart, fatal cases). The association of broncho-pneumonia with the disease process is especially unfortunate as regards prognosis, so much so that the writer is inclined to delay



of mastoid involvement, and 47 of the cases required operation; in other words, 26 per cent. The writer is, furthermore, of the opinion that the condition was unintentionally overlooked in some of the more severe cases, because of the difficulty of making a diagnosis incident to the age and state of the patient. The mortality in these operated cases approximated 25 per cent., though this mortality is rarely attributable to the

operative attack so long as seems possible in these cases, in the hope that the lung condition will show signs of amelioration.

Practically all that has been said in regard to the causation of scarlatinal otitis applies to the otitis of measles. The period during which a measles' patient may develop otitis seems shorter than in the case of scarlet fever; the otitis may occur as early but usually appears at the end of the



first or during the second week of the disease and seldom beyond the end of the third week in uncomplicated cases.

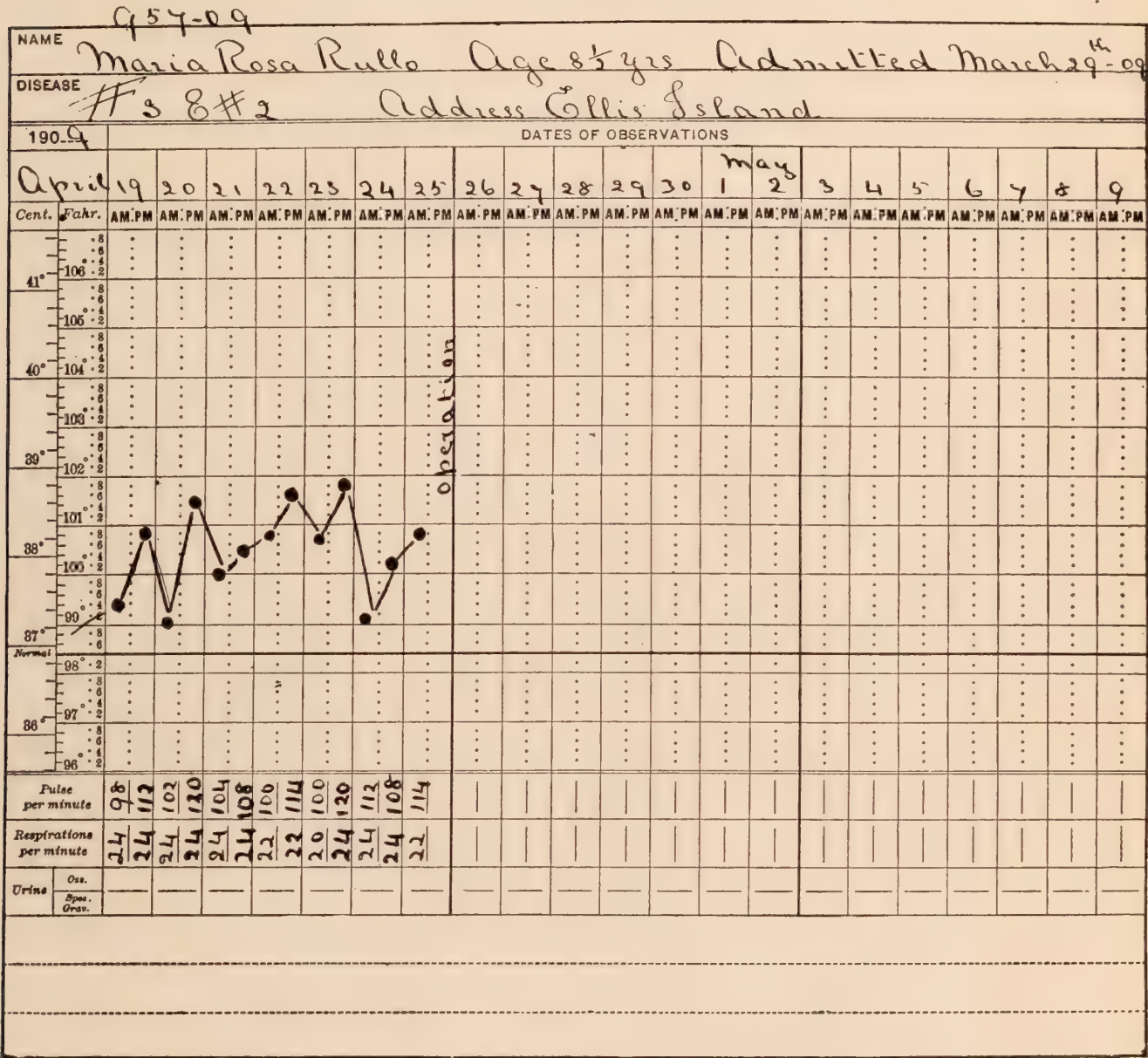
Also the symptoms of otitis follow about the same type in measles as in scarlet fever, though they are less apt to be so frequently of the fulminating type, even in the early stages of the disease. Extensive destruction of the structures of the middle and internal ear and of the neighboring parts is

middle ear, 15 per cent. of all the cases. These findings, the comparative frequency of scarlatinal and measles otitis, would probably not apply generally; the crowded condition of the measles wards, as compared with those devoted to scarlet fever possibly bore a certain and distinct influence in the causation of the complication. Of these 326 cases of otitis, due to measles, 34 cases, or 10½

21 W-1909

KINGSTON AVENUE HOSPITAL.

21-516, '09, 7,500 (P)





This greater mortality in measles, in the writer's opinion, is largely accounted for by the greater prevalence of inflammatory conditions of the respiratory tract; namely, bronchitis and broncho-pneumonia.

The diagnosis of an otitis media in both scarlet fever and measles is one easily made by inspection, but its occurrence is so apt to be masked in the early stages of the constitutional disease that the only safe rule to follow is periodic inspection of all ears, especially during the first and second weeks. Should the drum membrane show dull, lustreless, congested or bulging, then immediate and extensive incision of the membrane is in order. Should the drum membrane be of fair lustre, but slightly or more markedly retracted, translucent and pinkish from a slight congestion of the mucous membrane of the middle ear, due either to lack of ventilation or to a mild inflammatory irritation, then prophylactic treatment may be instituted by the use of mild alkaline, antiseptic nose washes, if these have not already been ordered, and the hot aural douche every two hours, combined with the local application of a hot-water bag. The writer believes the ice-bag is always a dangerous application in these cases; it masks the development of mastoid tenderness and of the superficial swelling, which sometimes appears in children having a persistent masto-squamosal suture or a well-developed cellular zygomatic process. Should the ear drum have perforated spontaneously, or following incision and the establishment of a suppurative otorrhœa, then syringing is to be substituted for douching or irrigation. This syringing should be done with a large Davidson soft rubber syringe, holding an ounce or so; at least a pint of sterile water or mildly antiseptic solution at 110 degrees Fahrenheit should be used for each ear affected, the ear being held out well from the side of the head during the process, so as to straighten out the canal. Between syringings, the syringe should be placed in a strong bichloride solution

or boiled. Syringings should be repeated every two hours during the day-time; and no cotton pledgets or plugs should be placed afterwards in the ear canal. If the ear drum has ruptured spontaneously, then a free incision should nevertheless be made to enlarge the opening and to relieve tension still further. These measures in the majority of cases will suffice to relieve the middle ear and mastoid cavities from further destructive inflammation. If, however, the inflammation of the mastoid cells does not abate, then the tenderness often already present, or which later makes its appearance, increases and covers a greater area. Should this tenderness thus increase or persist in the original location for the few days following the establishment of a purulent discharge and incision, notwithstanding the treatment above, then should a mastoid operation be done whether the temperature rises or not. Nor should one wait for external signs of involvement, such as redness or swelling of the soft parts overlying the bone, whether over the mastoid process, the zygoma or the posterior-superior wall of the external auditory canal. Because of the changes normally present in the blood both in measles and scarlet fever leucocytosis and increased polynuclear leucocyte percentage (the latter both relatively and absolutely) being usual in the early stages, blood examinations do not offer much help in determining operation at this time. In the later stages an increased polymorphonuclear percentage offers corroborative evidence, as normally both the leucocytosis and polynuclear percentage fall steadily after and following the eighth or ninth day of the disease.

In the doing of the mastoid operation, the effort should be to remove as nearly as may be all of the cellular tissue of the mastoid process up to the inner table, and especial attention should be devoted to the zygomatic cells, to the cells overlying the knee of the sigmoid sinus, and to the cells lying below the antrum.



## FATAL CASES.

## MEASLES AND COMPLICATIONS.

- No. 2480—Broncho-pneumonia, Albuminuria, Tonsilitis, Double Mastoid.  
 No. 2580—Broncho-pneumonia, Double Otitis, Mastoid, Left Hemiplegia.  
 No. 2666—Double Mastoid.  
 No. 2693—Broncho-pneumonia, Enteritis, Mastoid.  
 No. 2702—Enteritis, Purpura, Mastoid.  
 No. 2758—Broncho-pneumonia, Enteritis, Mastoid.  
 No. 2804—Broncho-pneumonia, Cardiac Murmur, Mastoid.  
 No. 2171—Broncho-pneumonia, Cervical Adenitis and Cellulitis, Mastoid.  
 No. 2373—Broncho-pneumonia, Cervical Cellulitis, Mastoid.  
 No. 2526—Broncho-pneumonia, Mastoid.

## SCARLET FEVER AND COMPLICATIONS.

- No. 1915—Diphtheria, Double Otitis, Mastoid.  
 No. 2341—Broncho-pneumonia, Nephritis, Endocarditis, Measles, Cervical Adenitis, Mastoid.  
 No. 2412—Broncho-pneumonia, Albuminuria, Double Mastoid.  
 No. 2546—Double Otitis, Mastoid.  
 No. 2967—Albuminuria, Entero-colitis, Mastoid.  
 No. 2983—Albuminuria, Mastoid.  
 No. 376—Mastoid.  
 No. 817—Nephritis, Left Facial Paralysis, Double Mastoid.  
 No. 1698—Broncho-pneumonia, Empyema, Mastoid.  
 No. 1973—Broncho-pneumonia, Nephritis, Mastoid.  
 No. 2127—Mastoid.  
 No. 2272—Broncho-pneumonia, Cervical Adenitis, Mastoid.  
 No. 1907—Diphtheria, Broncho-pneumonia, Mastoid.

*In 22 Fatal Cases:*

Broncho-pneumonia .....	14 times
Nephritis .....	7 times
Enteritis .....	4 times

*In 58 Cured Cases:*

Broncho-pneumonia .....	8 times
Nephritis .....	9 times
Enteritis .....	3 times

## ACUTE GASTRIC DILATATION AS A POST-OPERATIVE COMPLICATION.\*

JOHN C. MAC EVITT, M.D.

IN May, 1906, I read a paper before the Brooklyn Surgical Society entitled, "Post Operative Acute Dilatation of the Stomach." Prior to that date no mention was made of this condition in the American text-books of surgery, although a few cases were reported in our medical journals. In concluding my article I said, "Let me add that post-operative acute dilatation of the stomach is an assured fact beyond dispute. Furthermore, its frequency holds an important ratio to other sequelæ; that in the past it has been generally overlooked; that it has distinctive features by which it can be recognized in many instances without an exploratory laparotomy; that its early diagnosis will enable us

by proper treatment to prevent in a majority of cases extreme dilatation, which is the chief source of danger. That in the future with its more general recognition and improved therapy, many lives will be saved."

Since then many medical journals throughout the land contain articles upon the subject, and one text-book, Deaver & Ashhurst's "Surgery of the Upper Abdomen," devotes a chapter to its description; and I venture now to predict that all text-books on surgery will give it in the future the prominent place it deserves.

It is a condition of great gravity, puzzling in character and of frequent occurrence. While I intend this evening to speak of it as a post-operative complication, it is met with in the

\* Read before the Brooklyn Pathological Society.



broad roads of general medicine, surgery and obstetrics. As a post-operative complication it is encountered more often following operations upon the abdominal viscera. Its nomenclature is somewhat confusing, due to its observation from the anatomical or pathological viewpoint, in accordance with a theory of the writer. As this paper unfolds itself you will readily understand the following appellations: "Acute Post-operative Dilatation of the Stomach," "Post-operative Arterio-mesenteric Intestinal Obstruction," "Post-operative Ileus," "Post-operative Paralysis," "Acute Dilatation of the Stomach," "Acute Duodenal Intestinal Obstruction," "Acute Duodenal Compression," "Duodenojejunal Intestinal Obstruction"; certainly a formidable array of terms to express an occluded duodenum or paralysed stomach.

Thompson, writing in 1902, was able to collect, after a thorough search of medical literature, but 44 cases. Neck in 1905, 60 cases, Laffer in 1907, 217 cases, while at this date, 300 will more nearly represent the number, demonstrating, not a more frequent occurrence, but a more general recognition. To better enable you to grasp that which is to follow I will draw a pen picture of three cases arising from different extrinsic causes. One of particular interest to obstetricians is reported by Dr. Walter B. Laffer in Vol. XLVII, March, 1908, *Annals of Surgery*.

CASE I.—Female, aged 25 years. Had been well during her pregnancy. Had never had any stomach trouble. Was delivered of her first baby after labor had lasted two hours and during which a few drops of chloroform had been given. There was some hemorrhage after birth before the placenta was delivered, but not enough to affect the pulse or color. The uterus contracted well down after the delivery of the placenta and there was no bleeding. All went well until one hour after the birth when I found my patient with an extremely rapid, scarcely palpable pulse, yet there was no bleeding to account for it. . . . The upper abdomen was greatly distended. . . . I called in Dr. J. J. Thompson, an obstetrician who confirmed my diagnosis of acute dilatation of the stomach, but owing to the collapsed condition of the patient we were afraid to pass a stomach tube. This was a mistake.

The collapsed condition persisted for eight hours while the pulse became stronger and the general condition better. During the eight following days the following symptoms were present: Vomiting of greenish fluid and passage of considerable gas. Restlessness. Pulse varying between 108 and 132. Temperature between 99 and 103.6°. Bowels moved. Large quantities of gas passed through rectal tube without diminishing distention of the stomach. On the eighth day the patient ate and behaved well, distention practically all gone. The next day, nine days after the birth, the patient suddenly had a free hemorrhage from the uterus. When I reached her bedside the hemorrhage had subsided and she was in good condition. A hot sterile douche was given, and the uterus contracted, with no more bleeding. This was at 6 A. M. All went well until 12 noon, when the patient suddenly collapsed; the abdomen became greatly distended; there was no bleeding and no vomiting. In spite of all restoratives and stimulation the patient died at 1 P. M. After death a trocar was passed at the point of greatest distention just below the left costal border; great quantities of gas, and a quantity of milky fluid smelling strongly of Hoffman's anodyne, which had been given her, were removed. This one tapping removed all the abdominal distension and showed, undoubtedly, that the distension was due to the stomach alone. Credit should be given to Dr. Laffer for his frankness in admitting his mistake in not inserting the tube in the first instance.

CASE II.—(Excerpts from a case which I have already reported). Patient, female; aged 29 years; upon whom I had performed a supra-vaginal hysterectomy and appendectomy. Patient reacted well. From the first to the fourth day the following symptoms were present: vomiting of a greenish, slimy material; belching of gas; short spells of hiccough, extreme restlessness and irritability. Average pulse rate, first twenty-four hours, 102; average temperature, 99½ degrees. Complained of a feeling of fulness about the stomach. Gas was passed by the rectum, bowels open. Stomach distension increased, resonant and painful. On the fourth day after the operation her condition was as follows: pain all over the abdomen, vomited but little, retained milk and broth. Pulse, 116; temperature, 101 degrees; respiration, 26; abdomen more distended; delirium; vomited material, yellow in color and distinctly fecal in character; exhaustion extreme, presenting a condition of collapse; belly distended to size of a woman at term. I was unable to analyze the symptoms satisfactorily. The movements of the bowels with the escape of flatus, per rectum, caused me to doubt intestinal obstruction and the character of the pulse and temperature that of peritonitis and yet I thought that either one or the other was the cause of her condition. Looking upon the patient's death



as practically certain, if left to her fate, I decided upon an exploratory laparotomy in the hope of finding somewhere in the upper portion of the small intestine an occlusion, to me the only analogous cause to produce such symptoms. With the patient under an anesthetic I reopened the original wound midway between the umbilicus and the symphysis pubes, when suddenly bulging out through the incision there presented a bluish white tumor resembling an ovarian cyst, but more dull in appearance. Passing my hand between the tumor and the abdominal wall, I found it completely filled the abdominal cavity extending into the pelvis. I could neither see nor feel any coils of intestine. It was only after reaching upward over its anterior surface towards the diaphragm and feeling the elevation of the liver that I recognized the fact that the tumor was the enormously distended stomach. I was at a loss to determine what procedure to adopt. Never having read of a like complication following an operation. From its marked resonance I believed it contained gas alone. On impulse, I was about to make a small incision in its walls, when better judgment dictated the use of the stomach tube, through which volumes of gas escaped with about three quarts of feculent fluid. The stomach gradually contracted down to its normal size in the manner of a deflation of a small balloon. As the stomach contracted, the large intestine dilated, while the small intestine lay over the spinal column completely collapsed into a mass readily held within the palm of the hand. Kemp, in reference to this condition in case, writes: "Evidently the enormously distended stomach had pushed down the intestines into the pelvis, forcing the gas out of the small intestine, crushing them, so to speak, between the upper and nether mill stone, the large intestine at once returning to the upper cavity when downward pressure was relieved."

Commencing at the duodenum, which was normal for about two inches from the pylorus, I carefully and slowly traced it down to the site of the removed appendix, which was covered with a grayish exude resembling a superficial slough, I found no occlusion or constriction whatsoever. To be doubly sure I retraced it to the pylorus with a like negative result. The large intestine from the cecum to the anus remained distended.

Hot saline solution was poured into the peritoneal cavity as a stimulating medium to the intestinal walls, without producing any evidence of peristalsis. The wound was then closed with through and through sutures of silk worm gut and closed without drainage.

The rubber tube was again introduced into the stomach and it required repeated filling and emptying of the stomach with water before it returned clean and odorless. Patient was then put to bed and the foot of the bed elevated. My general instructions to the house surgeon were to wash

out the stomach every six hours. Neither fluid nor nourishment was to be given by mouth. Nutritive enemata every five hours, consisting of peptonized milk, liquid peptonoids, whiskey and saline solutions alternately. Hypodermically, morphine to relieve pain, if necessary; strychnine 1-30 of a grain; eserine 1-40 of a grain every three hours. During the night and following day the patient rested well, slept lightly at short intervals, in all about six hours; neither pain, vomiting nor nausea. Expelled gas by mouth and rectum; pulse, 116; temperature 99.1°; respiration, 26. All the enemata were retained.

Passing now to the notes of the third day following the exploratory operation, I find recorded: pulse, 86; temperature, 99½; respiration, 26; slight delirium; two liquid bowel movements with large amount of gas, fecal odor still present in the stomach washings. Eserine discontinued. In the evening for the first time since the operation, the yellowish tinge to the returned fluid was absent and scarcely any fecal odor. On the day following green particles floated in the otherwise clear water.

On the sixth day patient slept all through the night. Frequency of stomach washing reduced; and after each, small quantities of peptonized milk given and retained; patient objected to enemata, felt hungry and wanted all food given by mouth. Washings from stomach still slightly green in color at the first siftings; large amount of gas still passing by rectum, two movements from bowels. Pulse, 104; temperature, 99¼; respiration, 24.

From this period until the date of her discharge from the hospital, May 11th, twenty-two days, amount of easily assimilated food was gradually increased and the lavage of the stomach gradually discontinued. On the twelfth day the sutures were removed; union perfect. Three months after the patient reported at my office in seemingly perfect health.

CASE III.—(Dr. J. O. Polak's case of gastric dilatation). Patient, Mrs. X. Operated for tubo-ovarian abscess and pelvic peritonitis. Extensive intestinal and parietal adhesions. Closed without drainage. Returned to bed in good condition. Placed in the Fowler position. Did not vomit at all for the first fifty hours after operation, but her entire abdomen became enormously distended, the epigastric prominence being most noticeable. No flatus was passed by mouth or rectum. Enemata of all kinds proved ineffectual. The distension continued to increase and the pulse became accelerated and weak, until the stomach tube was passed and seven and a half pints of greenish yellow fluid were siphoned off. The stomach was thoroughly lavaged with normal salt solution, which resulted in the free exhalation of gas through the tube and immediately relieved the distension. The patient was treated by repeated lavage and in the right latero-prone position; her recovery was satisfactory.



I trust that the three foregoing cases, although briefly reported, have been clearly enough described to enable you to recognize the condition when you meet it.

*Pathogenesis.*—To our German confreres we owe recognition for their researches as to its pathology, though differing in opinion as a result of their labor, one side maintaining the theory of mechanical obstruction, the other, motor insufficiency.

Until recently it was generally held that the dilatation was due to a paralysis of the stomach walls, but the recognized frequency of this condition has led many surgeons to make a more complete study of the literature subject and to give their personal experiences, from which light is beginning to shine. Reduced to simple factors, mechanical obstructions and motor insufficiency are the basic causes. In post-mortem examinations in patients who have died from acute dilatation of the stomach the absence in the majority of cases of recognized causes of obstruction led to the support of the opinion of its being primarily of paralytic origin. The vagi supply of motor impulses to the muscular coats of the stomach. The sympathetic fibers carry inhibitory impulses to control peristaltic movements, and when an injury to the head has been followed (as reported) by acute gastric dilatation, it is obvious that the central lesion can act as a primary cause. In the great majority of cases the disturbing elements act directly upon the muscular coats or its terminal nerve filaments such as by toxemia aided by abnormal fermentative processes in the stomach. Carion and Hallion state: "If section of the vagus nerve is capable of causing complete atony and permanent dilatation of the stomach, it is hardly disputable that effects of the same nature could be followed by paralysis of the corresponding nerve centre without any previous alteration in the stomach itself. Such a paralysis could be central in origin, arise somewhere along the course of the nerve trunks or be terminal in character. In this regard V. Herff explains the relatively large

number of cases of dilatation of the stomach are due to excretion of chloroform by the stomach. Kelling and Braun find that in dogs on which gastrotomy had been performed and were allowed to recover from the operation, it was impossible to produce acute dilatation of the stomach owing to the fact that after a certain degree of distention a vomiting reflex set up which emptied the stomach. If, however, the dog was anesthetized, the vomiting reflex was abolished and the stomach could be distended to the point of bursting. Braun and Siedel then concluded that acute dilatation could best be explained on the ground of the primary, central or terminal disturbances of the gastric innervation apparatus. In their cases they think that anemia or narcosis, or both, caused the disturbance of the vomiting reflex, so that the stomach did not fully relieve itself. The vomiting centres thus paralyzed during narcosis has a weakening, excitable condition of the centres, as shown by post-anesthetic vomiting, which is followed, in some cases, by lessened excitability, exhaustion or paralysis. It is when the last condition occurs we have acute dilatation of the stomach. With this explanation of the neurotic theory, not desiring to trespass upon your time by a further exposition of this theory, I will only add that it is the one held by the men who have given the subject the greatest thought, observation and experimentation.

Let us now pass to the other theory. Those who do not accept the neurotic theory look upon mesenteric constriction of the duodenum as the productive cause. That the obstruction is not more often found, may be due to overlooking the constriction in the manipulation of the intestinal coils. Albrecht and others found that the terminal portion of the duodenum, where it passes behind the root of the mesentery and lies upon the vertebral column and aorta, is, in a normal condition, not a round but a distinctly flattened surface owing to the pressure of the overlying mesentery and its attendant mesentery artery. If the finger is passed into the duodenum



and at the same time gentle downward pressure be made upon the mesentery, the constriction becomes more distinct and it is evident to the examining finger. If, now, traction is made downward and backward, the constriction may be flattened into complete occlusion. With the small intestine lying partially in the pelvis, traction would be made upon the mesentery in just the direction to produce closure. In order that the intestine may make its way into the pelvis and exert traction upon its mesentery, it is necessary that it contain no gas and that the mesentery be of suitable length—long enough to permit the small intestine to swing into the pelvis without being supported upon its floor, for tension upon the mesentery is necessary to produce duodenal occlusion. Dorsal decubitus, elevation of the head of the bed, as in the Fowler position, facilitates this descent of the small intestine; and fasting before an operation may make this condition a menace. Schnitzler observes that inward prominence of the lumbar vertebræ renders the duodenum more liable to serious compression. The almost constant presence of fecal gases in an enormously dilated stomach has led to the belief that this is the factor of chief importance in the production of the duodenal occlusion. By the rapid increase in the size of the stomach the intestinal coils may be crowded more into the pelvis, and once there, would be prevented from escaping; at the same time the weight of the heavy stomach upon the mesentery would be likely to render futile every effort on the part of the duodenum and gastric muscles to overcome the obstruction.

While there is a general agreement that a gradual enlarging of the stomach is of importance in rendering the incarceration more complete and prominent, there is still a sharp difference of opinion as to whether the dilatation of the stomach or the obstruction of the duodenum be the primary agent in the vicious circle established, by which the dilated stomach increasing the duodenal obstruction and this tension in turn augmenting the dilatation of the duodenum and of the

stomach. To sum up in a few words and to bring into agreement these theories regarding the pathology, let us assume that both theories are correct in individual cases.

The occurrence of acute dilatation of the stomach has for a long time been recognized from a purely medical point of view as far back as 1842. Rokitansky described it; Mills and Hunby in 1853; Baumberger in 1855; but to Hilton Fagge we are indebted for a description of its symptoms, physical signs and diagnosis following traumatism. The importance of a knowledge of this condition is manifest when we consider how long it has been overlooked as a surgical complication. Its gravity is accentuated by its similarity in both objective and subjective symptoms to obstruction of the bowel, paresis and peritonitis. The past difficulty of recognition was aided by its following in a large percentage abdominal operations from which the three above mentioned conditions often resulted.

Fortified with a knowledge of its possible occurrence we are doubly armed to meet its advent. It is well to bear in mind in studying its pathology and etiology we are but at the portals of the domain and that further advancement in our knowledge, particularly of the pathogenic field, will greatly aid our remedial measures, therapeutical or surgical.

Age has somewhat of a bearing as an etiological factor. While it has occurred in early childhood and advanced old age, from the cases reported so far over 200 occurred between the ages of ten and forty years. Sex seems to have little influence, females slightly predominating in number; traumatism of almost any character, often though the integrity of the skin be not destroyed: in other words, a cutting operation is not necessary for its production. A larger influence would be an operation which requires manipulation or mutilation of the abdominal viscera. From the frequency of slight dilatation of the stomach following an operation demanding an anesthetic, one would naturally feel that the character of the anesthetic played an important



part in the production of these grave sequelæ. Forty-one per cent. of the cases followed general anesthesia, chloroform being the anesthetic most frequently used. Operations upon the gall bladder and bile passages led in frequency, closely followed by those upon the other abdominal and pelvic viscera. Connor states: "It is worthy of note that no instance was found in which acute dilatation followed operations upon the stomach itself." On the other hand, Nichols calls our attention to five reported cases following operation upon that organ. Walzberg thinks that cooling of the viscera during the laparotomy as well as their handling, the use of sponges, gauze packing, and the chilling and clotting of the lymph in the lymph vessels all favor the occurrence of acute dilatation. Injudicious dietetics after abdominal operations should be carefully avoided. Vomiting, presenting strong intra-abdominal pressure is given as a cause. Kocher maintains that it is a sequence of a gastric catarrh even though slight, or of a circulatory disturbance succeeding it. Toxemia and gas fermentation are also to be considered as etiological factors, as well as shocks resulting from falls or bruises upon the head, trunk or extremities.

*Symptoms.*—Of primary importance is the early recognition of the symptoms accompanying acute post-operative dilatation of the stomach, for herein lies prevention of progress and perhaps a speedy cure. At the onset, vomiting stands out as a most prominent symptom. This may be continuous from the start, following the vomiting due to the anesthetic. This symptom has been observed in all but two cases. Quite a number of writers give as a diagnostic sign the absence of fecal vomiting. Kundrat, Lehman, Abbott, Balster, Braun, Wishen, Bremont and the writer report it as being distinctly present in individual cases. An interesting symptom to me from observation was that at first all solids and fluids were vomited, but as the dilatation advanced, some of the ingested material would be retained and others rejected,

but at the period of greatest distension most of the ingesta was retained. The explanation of this is that with the increased distension was increased motor paralysis and the gastric walls did not possess power enough to reject its contents from its lower depths. I was deceived by this symptom, believing that the condition of the patient was undergoing improvement. The chemical character of the vomitus has no diagnostic value if we except the almost invariable presence of bile. Of little value is the fact that a few cases have been reported where the vomiting ceased one or two days before death, a symptom evidently due to complete exhaustion. The abdominal distension varies in degree from a slight enlargement to one of astonishing size. This distension is at first more marked in the upper zone and when the abdominal walls are thin there may be noticed an irregular enlargement the left hypochondriac region and the right flattened; the outlines of the lower curvature may be seen moving up and down during respiration. This symptom did not exist in any of my cases, the abdominal distension being uniform. With the increased distension there is a corresponding increase in the respiratory embarrassment and an interference with the heart's action, producing dyspnea and angina pains. Ruffier reports a case where the distension was so great that it tore out the stitches of an abdominal section and allowed the wound to gape, exposing the stomach fifteen days. Resonance is marked everywhere until after great dilatation when dullness is present in the flanks, owing to the subsidence of the retained fluid. Pain is not a constant symptom. When present it is generally referred to as in the epigastric region. This symptom could be better expressed by the word tenderness. Before the distension becomes great, muscular rigidity is given as a symptom by some writers. Constipation generally exists, but an excretory discharge from the bowel may be present in the form of a diarrhea. The urine is scanty as there is little or no absorption of the fluid taken by the tissues; it is either rejected or re-



tained in the stomach. The temperature varies from hyper- to sub-normal and offers no criterion to judge by. A prominent symptom is the vomiting of fluid out of all proportion to the quantity taken, sometimes one or two gallons may be vomited within twelve hours. This symptom has led one writer, Morris, to designate gastric dilatation, as gastrorrhea due to hypersecretion. Flatus passed by the bowel is present and is a helpful symptom in aiding us in diagnosis. Hiccough is more often absent than present. A splashing sound may be heard when the distension is great. Collapse, with its well known train of symptoms in marked cases, is always present and the facies of a grave disease is constantly before you.

*Duration.*—This depends upon the gravity of the case, but as this paper refers to grave post-operative cases, the consensus of opinion appears to be a few hours to four or five days; that this duration is very often hours, be the termination death or recovery.

*Prognosis.*—In determining this, it is well to bear in mind that mild cases are probably overlooked and only the most serious ones deemed worthy of regard. From this point of view the mortality is about 70 per cent.

*Diagnosis.*—In reviewing the literature on this subject, I was struck with the unanimity with which others would introduce the subject of diagnosis with a sentence somewhat like the following: The first case coming under the writer's observation passed, as a rule, unrecognized during life, but left such an indelible impression that a like error would be well nigh impossible.

Intestinal obstruction and peritonitis are the two principal conditions liable to lead us into error of diagnosis through similarity of symptoms. The initiatory chill, with the gradual onset of peritonitis, its much higher range of temperature, except in asthenic cases, the greater intensity of pain, muscular rigidity, absence of the exceptionally large amount of vomited fluid, and the failure of the stomach tube to relieve the distension in the

upper abdominal zone, will aid us in differentiating.

From intestinal obstruction the differentiation is more difficult; this is particularly so when the obstruction is high up. In obstruction we have the unsurmountable constipation, together with the symptoms of concomitant peritonitis, its slower onset, character of the vomitus which, in obstruction, is fecal as a general rule; in acute dilatation of the stomach exceptional, the absence of flatus per rectum usually present in the latter, absence of the splashing sound and dullness in the lower zone.

Kelling suggests, to determine an obstruction at the lower end of the duodenum, the use of a large injection of a 6 per cent. salt solution. The presence or absence of fresh bile in the returned fluid will determine whether or not the duodenum is occluded. But the train of symptoms following in the wake of post-operative gastric dilatation is so varied that all forms of intra-abdominal conditions have been erroneously diagnosed. It is well here to add, in using the stomach tube for diagnosis, one should bear in mind the greatly increased depth of the viscus and carefully try to reach its most dependent part. The patients, as a rule, are so exhausted that a sitting posture is attended with distress, but, by elevating the foot of the bed, the process is facilitated with comfort to the patient.

*Treatment.* — With our present knowledge, prophylaxis by a careful inquiry into the past and present functional health of the stomach of the prospective subject for operation, and proper dieting in advance; but, above all, the possibility of its occurrence should ever be borne in mind. With the first signs of distension of the stomach, nourishment should be given by the rectum and medication hypodermically. Of all remedial measures lavage of the stomach is the most important. When the vomiting persists after the first twelve hours, an inspection of the stomach should be made, removing the dressing, if necessary. Should the stomach be found dilated,



no matter how great the prostration of the patient, it should be submitted to frequent washings, using some mild antiseptic solution, for herein lies the hope of preventing extreme distension. Medicinal treatment is limited to but a few drugs—salicylate of eserine in doses of one-fortieth grain hypodermatically, and strychnine sulphate pushed to its physiological safety. Piedad used morphine, but except to lessen the pain when acute, I would deem it harmful as being destructive to any latent reserve nerve force in the muscular coats of the stomach. Bastedo used apomorphia to produce vomiting in an effort to empty the stomach. This I would also consider ill advised. Restoratives should be kept up to the last. Fürster advises the induced electric current. The excessive loss of fluid through the gastrorrhoea, often times characteristic of this condition, can be restored to the system by saline enemas or by hypodermoclysis. If, after the lavage of the stomach, the dilatation persists, we will be justified in assuming that there is a mesenteric obstruction of the duodenum, either by angulation or pressure, and other measures must be resorted to. Postural treatment from its pathology is logical. Schnitzler was the first to offer this suggestion. His patient was changed alternately from the dorsal to the belly position, the symptoms disappeared and the patient recovered. Baumler

changed the procedure by placing his patient in the knee-chest position for a quarter of an hour in each two hours, the rest of the time lying on the belly. Müller, Walzberg and Robinson report cases where the knee-chest, belly, hip elevation and lying on either side relieved the symptoms, but to return when the patient assumed the dorsal decubitus. Boschart says that, acting upon the advice of others, he placed his patient, after drawing off a pailful of biliary fluid, on her chest and belly; she grew worse instead of better, as the position interfered with respiration and added to the danger of mechanical heart failure. In two cases that I saw, owing to the extent of the gastric distension, the chest-belly position would have been impossible.

When all these efforts fail to grant relief, operative measures must be resorted to; an exploratory operation at least, no matter how desperate the patient's condition may be. Gastro-enterostomy is advised by Mayo Robinson on the principle that it affords drainage to the stomach. The mortality from surgical attempts at relief is terrifyingly great.

In conclusion, the pathology, etiology and medical treatment of acute gastric dilatation is becoming fairly well understood, but time and unified experience will be necessary to solve the problem of its surgical demands.

## THE VISCERAL MANIFESTATIONS OF THE NEUROSES

By ARTHUR CONKLIN BRUSH, M. D.

BROOKLYN, NEW YORK.

Professor of Mental and Nervous Disease in the Brooklyn Post-graduate Medical School; Visiting Neurologist to the Kings County, Brooklyn Eye and Ear, and Williamsburgh Hospitals.

**H**YSTERIA has been recognized as a distinct disease since very ancient times and the non-recognition of the real nature of its phenomena has been the foundation of the success of the miracle worker and quack in all ages. Neurasthenia is, of course, as old, but its recogni-

tion as a distinct condition is of very recent date, but like the grand neuroses it has played the same part in the history of medicine. Even to-day the success of the wave of mental healing which is sweeping over the country is in no small part due to the same fact.



The attitude of the medical profession in this country towards these two neuroses is peculiar, for while admitting their importance, but little study is given to them. This is especially true of their internal manifestations, as described in the English and American text-books, as but scant reference is made to the subject. In France and Germany, however, medical writers have given much more attention to the subject. The reason for this is evident, for in the past, hysteria and neurasthenia were much less common in the English speaking race than they are to-day, from the simple healthy mental and physical life which our progenitors led; but to-day from the mad rush for pleasure, the unhealthy methods of education, the vain attempt to gain ends without effort, and the countless new strains of our modern civilization, the American people are becoming a very neuropathic race. It is time then, that more attention be paid to the study of these neuroses.

That hysteria is a real disease is shown by the fact "that the psychical nemesis is frequently found in persons who are ignorant of the existence of such a thing as hysteria and who, uneducated and without motive, closely imitate diseases of which they have never heard." "That hysteria is different from simulation is proven by the occurrence of hysterical phenomena among all people and in all times, and by the general uniformity in the character of its symptoms." (Bailey)

The definition of hysteria as found in the average text-book is extremely defective. It is usually stated to be a weakening of the will, or, in other words, of the power to control and direct our thoughts; but anyone who has had much to do with this condition will find this definition is extremely incomplete.

Hysteria is a pure mental disease due to the occurrence of some emotion, usually of an alarming or depressing nature, and most often occurs in persons whose nervous system is weakened by inherited or acquired conditions. The mind being formed

not only by memories which are received from the outer world but also from the internal organs and registered in the various cortical centers, and brought into consciousness by our power of directing attention to them; it follows that when a powerful emotion enters the mind that our power of directing attention is disturbed and we can no longer select the concepts or memories which we wish to use; but the more marked ones keep forcing themselves upon our attention and thus the power of synthesis is also affected in hysteria. From this it naturally follows that attention being fixed upon some few concepts groups, that the others escape recognition and thus the field of consciousness is narrowed.

Neurasthenia is more easily defined as it is simply a weakness of all the nervous centers, causing them to respond more easily to any peripheral stimulation but in a feebler manner.

As the functions of every organ of the body are governed by centers in both the spinal and cortical level to and from which impulses are transmitted to these centers, it naturally follows that such disturbances of the nervous system as are found in these neuroses should give rise to disturbances in these functions.

The centers which have been localized in the cortex are the motor, sensory, vasomotor, trophic for skin bones and joints, cardiac, respiratory, laryngeal, gastric, masticatory, intestinal, pancreatic, hepatic, salivary, renal, vesicle, genital, lachrymal, speech, visual, auditory, smell, taste, psychic, and possibly for temperature and metabolism. Thus it appears that the clinical observations of Maudsley, Regis and others, which lead them to believe that the internal organs were represented in the mind, is now confirmed by physiological, anatomical, and pathological facts.

The centers whose disturbances concern us at present are those which preside over the functions of the internal organs and the vasomotor, which regulates the circulation in them. Impulses pass to and from these centers by two paths. Those



for functions pass through both the pneumogastric and spinal centers and thence by the former nerve or spinal nerves through their sympathetic branches to the organs. Those for impulses from the cortical vasomotor centers pass downward to the centers in the spinal level and thence by the branches of the spinal nerves to the organs. These latter branches of the spinal nerves forming what was formerly known as the sympathetic system.

It is not surprising, then, that any mental disturbance which disorders the control of the psychic centers over those which control the functions of the internal organs, as in those whose disturbances are more open to observation, should result in disturbances of their functions. That such effects are produced as temporary effects by strong emotions is well known; as is shown by vomiting or arrest of digestion from fear or disgust, by the increased or arrested secretion of urine, the rapid, feeble or arrested heart action, the cold, pale, moist skin and dilated pupil from the same causes, by the flushed face, violent heart action and contracted pupil of anger, and by the blush of pleasure, with its strong heart action and increased digestive capacity. In this way the mind can influence to some extent the course of organic disease, as depressing emotions by depressing vitality increase the liability to the invasion of bacteria and hasten the course of organic disease, and pleasing emotions, such as a belief in a cure, tend to have the opposite effect. In this way, then, the mind does to some extent influence the course of organic disease and herein lies some of the results obtained by the various forms of faith cure and the results obtained by certain physicians from placebo therapeutics.

The mental state of the hysteric is analagous to the normal dream state and its highest development shows itself in conditions of double consciousness, trance, convulsive seizures, and hysterical insanity. The physical effects of this disturbance of the psychic control over the cortical centers of the various organs of the body

shows itself by disturbances of their functions and changes in their circulation. Those which are most obvious and best known are the paralyses, the contractures and tremors and spasms of the muscular system; the anesthetics, hyperesthesias and paresthesias of the mucous membranes, skin, and deeper structures; the vascular contractions and dilatations causing local anemias, hyperemias, edemas, local hemorrhages, even local asphyxias and gangrene, blebs and other eruptions, changes in the hair and nails and in the perspiration.

Similar changes are known to occur in the internal organs but are much less frequently recorded, probably from the fact that their real nature often is not recognized and they are believed to be the cause rather than a part of the hysterical associated phenomenon.

In neurasthenia the irritable weakness of these centers shows itself in a feebleness of function and an unnatural reaction from slight causes. Hence we have the habitual cold, moist skin with easily induced flushing and perspiration, the unsteady pupils, the easily exhausted reflexes, and the easily induced muscular fatigue. In the internal organs a similar weakness and irritability exists.

In hysteria, anesthesia of the lips, mouth, tongue and pharynx, with loss of the pharyngeal reflex or paralysis of the pharyngeal muscles is common, and more rarely we find an edema of these organs. Such edema of the sub-mucous tissue may occur suddenly after an emotion, and then disappear as rapidly. Capillary hemorrhages of like origin are not uncommon from the mucous membrane of the mouth or pharynx and is the cause of the many so-called hemoptyses; and both these edemas and hemorrhages are a fruitful source of mistakes in diagnosis.

In the larynx hysterical anesthesia and paralysis of the vocal cords are well known, less commonly hysterical edema occurs, causing laryngismus stridulous and even death, and of this condition the following is an example:



Male. Aged 35. German. Single. Admitted to the Kings County Hospital September 14, 1894. Has been in the hospital twice before for the same condition. Examination shows a marked emotional state, complains of globus, has a fine intention tremor, falls in the Romberg position, reflexes normal, areas of anesthesia on body and limbs, hyperesthetic points in groins and over spine, contracted visual fields, and profuse perspiration. October 4, 1894, he suddenly developed a pulmonary edema with hemoptyses lasting a few hours. November 1st he suddenly developed edema and anesthesia of the larynx and pharynx with dyspnoea and aphonia. This suddenly disappeared after a few days. December 2d, the condition suddenly recurred during the night and ended fatally before morning. The autopsy was negative.

In hysteria the rhythm of the respiratory movements is often changed, becoming rapid and shallow, and may rise to 60 a minute, but as a rule without dyspnoea. This may follow a crises and be of brief duration, or it may form one of the permanent stigma of the case. Pulmonary vasomotor accidents resulting in edema and hemorrhage from the pulmonary tissue are rare but well recognized. As described by Dejerine, "the blood is ejected spontaneously or after an attack of coughing. The quantity varies from a succession of bloody spits to a veritable vomiting of blood. It is accompanied by cough, dyspnoea, a temperature sometimes normal, sometimes raised to 39° C. or 40° C., loss of appetite, loss of flesh, nocturnal sweating, and resembles pulmonary tuberculosis." A mistake in diagnosis, without a careful study of the whole case, might easily be made; and such cases undoubtedly form the basis of many of the cures of consumption by the faith healers. Of this class of cases the following is an example:

Female. Aged 48. German. Widow. Admitted to the Brooklyn Eye and Ear Hospital January 24, 1902. On August 21, 1901, she was knocked down by a trolley car, rendered unconscious, and bruised on the right chest. Complains of tinnitus, deafness, pain in the right chest and hemoptyses. Has a fine intention tremor, anesthesia of the right hand, tender points over spine and at the junction of the seventh right rib with its cartilage, and loss of right hearing. January 5, 1903, she was again seen at her home when a fracture of the skull and fifth and sixth right ribs, and a

meningeal hemorrhage were claimed by her attorney's physicians. She had a flacid paresis of the right arm and leg, normal electrical reactions, fell backward in the Romberg position, right hemianesthesia of the body and face, normal pupils and contracted visual fields. Suddenly she developed rapid respiration, cough, hemoptyses, followed by copious expectoration of a straw-colored serum containing air bubbles, and the right lung showed moist rales, dullness, and bronchial breathing. The pulse remained 68 during the entire attack which lasted two hours. Such a case if only seen during the attack might easily lead to a mistake in diagnosis.

In neurasthenia a rapid and feeble heart action is the rule. The pulse varying from 100 to 160. In both neurasthenia and hysteria palpitation is common and may continue for a long time and then cease suddenly. At times the heart's action may be so violent as to cause oppression, pain, suppressed voice, pallor, cold moist skin, and fainting. This usually follows some emotion, attack of indigestion, or marked physical exertion, and according to Dejerine never results in cardiac hypertrophy but Oppenheim states that it may result in organic disease. Pseudo angina pectoris also occurs in both conditions. Occurring in paroxysms and terminating in a cure. It is often preceded by a hysterical aura lasting several hours consisting of a sense of heat in the extremities, or numbness and sensation of cold, by pallor and cyanosis of several fingers, by loss of power and cramp in the hand, or by absence of the radial pulse. Then a violent sternal pain of a grasping character develops, pallor of the face, expression of terror, pain radiating into the intercostal spaces, arm, neck, jaw, and spine, the skin becomes cold and moist, and vomiting occurs. During the entire attack the heart's action and respiration are undisturbed and of this condition the following is an example:

Female. Aged 31. United States. Married. Admitted to the Kings County Hospital November 10, 1899. Father insane. Major hysteria followed by trance at each menstrual period. Found wandering on the streets, saying that "she was looking for a home in the tomb." Has a fine general tremor, increased deep reflexes with absence of plantar, complete anesthesia of the pharynx and below the clavicals, hyper-



esthetic points in groins, below the breast and over spine, and contracted visual fields. Two days later she developed retrosternal pain radiating into the left arm and neck, terror and finally polyuria. The pulse and respiration remained undisturbed. There was a marked hyperesthesia of the cardiac area during the attack.

In neurasthenia "vasomotor storms" are common, causing local or general flushing, sweating and aortic throbbing. Functional murmurs are also common in neurasthenia, as are dermatographia and urticaria.

The functions of the stomach are frequently disturbed both in neurasthenia and hysteria. In the former there is loss of digestive power, with pain after eating, gaseous fermentation, gastric distension and often vomiting, due to altered secretion and muscular relaxation. In hysteria besides those cases which for the purpose of exciting interest, pretend to refuse all food, and are easily distinguished from the fact that their nutrition remains unimpaired, we find true cases of hysterical anorexia due to anesthesia of the gastric mucous membrane. These cases, if of any duration may result in dangerous and sometimes fatal innation. Disgusting obsessions dominating the hysterical mind may lead to extreme emaciation and anemia from repeated vomiting, until the patients develop a rough dry skin, rapid and feeble heart, and a rise in temperature. Three such cases, one ending fatally have occurred in the Kings County Hospital in the past fifteen years. In the fatal case the autopsy findings were negative. From the marked hyperesthesia over the stomach on palpation one may assume that it is the seat of a hyperesthesia, and such cases may easily be mistaken for acute gastritis. Hysterical edema of the stomach, with or without transudation of blood, is also well known, causing indigestion, vomiting, pain in the upper abdomen, tympanites and abdominal pulsation. When the vomiting is accompanied with blood, Dejerine observes that they closely resemble gastric ulcer. The writer also has knowledge of such a case which was diagnosed as a non-palpable can-

cer of the pylorus and now forms the basis of the claim of a cure by Christian Science.

Diarrhoea, colic and constipation are common both in neurasthenia and hysteria due to the disturbance both of the secretory and motor functions of the intestine. It is to be noted that these cases are uninfluenced by the usual remedies and are not infrequently diagnosed as enteritis.

We know but little of the disturbances of the liver and pancreas found in these neuroses, but it is known that sugar often appears in the urine in both and jaundice in neurasthenia. Thus this presence of sugar in the urine has often formed the basis of the diagnosis of diabetes.

The functions of the kidneys are, as a rule, disturbed in both neuroses. The most frequent disturbance being a polyuria which in hysteria may occur after a crises or as a permanent stigma. This is due to a dilatation of the renal vessels causing the secretion of a large amount of a urine of low specific gravity. If a renal edema occur with this dilatation, small amounts of albumen may also be present, which may result in the diagnosis of chronic nephritis. This fact explains the claim of cure of Brights disease by the faith healers. The opposite condition of contraction of the renal vessels may also occur in both neuroses, causing a diminution or temporary suppression of the urine. In neurasthenia the urine is often alkaline and deposits phosphates, urates or oxalates.

The functions of the bladder are often much disturbed in neurasthenia causing dysuria, stammering of the bladder or temporary retention. In hysteria, incontinence rarely occurs from hyperesthesia of the mucous membrane or anesthesia with retention may at times occur.

Of all the manifestations of these neuroses, a disturbance of the menstrual function is probably the most widely known. due either to vascular dilatation resulting in excessive, prolonged or too frequent menstruation or to vascular spasm resulting in



scanty or suppressed flow. My records show that in 91 per cent. of the female accident cases, the fright which caused the hysteria, resulted in an immediate uterine hemorrhage; and then some old displacement was subsequently found, a claim of injury to the uterus not infrequently resulted.

Hyperesthesia and anesthesia of the vagina are not infrequent in hysteria and often cause much marital infelicity.

In both neuroses, in the male, premature ejaculation, frequent nocturnal emissions and absence of sexual desire are common.

Hysterical fever is also recognized. As described by Dejerine it presents no definite type, resists all antipyretics, is continuous or irregular, and may last for months or years. It is not associated with the usual symptoms which accompany a pyrexia and is usually associated with the other manifestations of the neuroses; but at times it is monosymptomatic. It may thus simulate such organic fevers as typhoid, meningitis, tubercular meningitis and phthisis. If we accept the statement of Morat that the temperature of the body is regulated by the vasomotor system, the occurrence of this pyrexia is quite as logical as the other manifestations of the disturbances of the vasomotor centers.

Abnormal conditions of the eye form one of the most constant stigma of both neurasthenia and hysteria. In neurasthenia it shows itself by the loss of power in the muscles of accommodation resulting in a blurring of vision in reading and in fatigue of the retina causing a narrowing of the visual field. Abnormal irritability of the retina is also common causing photophobia, pain in the eyes and *musculi volitantes*. In hysteria we find almost constantly a tremor of the *orbicularia palpebrarum*, and less frequently a spasm of this muscle or one of the external ocular muscles causing strabismus. The pupils are in the vast majority of the cases of hysteria absolutely normal, but, as is well known the size of the pupil can be influenced by thinking intensely of

near, far, dark, or light objects, and from this it follows that a total suppression of all visual memories in the mind is accompanied by an increased inhibitory action of the cortical centers causing a condition of complete loss of vision, with dilated and irresponsible pupils or hysterical amblyopia. This condition is most often associated with hysterical convulsions and may make the diagnosis from epilepsy at times difficult; or it may form a constant stigma of the case. More commonly this suppression of the visual memories is partial and only the fainter ones from the periphery of the retina escape recognition, forming the contraction of the visual fields. With or without the contraction for visual acuity, we often find a contraction of the field for colors, especially for green and blue. Anesthesia of the conjunctiva and cornea are common, and more rarely edema of the former occurs. As far as I can ascertain there is no record of hysterical disturbances of the retina beyond contraction or dilatation of its vessels; but three cases have come under my observation which seem to indicate that edema may also occur.

W. S. Male. Aged 19. Scotland. Seen in consultation November 3, 1896. Two weeks before he received a violent blow on the occiput causing a fracture of the base. Examination showed eyes closed and tremulous. Eyeballs directed upward and inward. Constant coarse tremor of left limbs and constant tonic spasm of the right. Normal deep reflexes on the left and right abolished by the spasm. Left plantar reflex absent. Left hemianesthesia with hyperesthetic zones in the groin and on the spine. Dilated and irresponsible pupils. Six months later the fundus was examined by an ophthalmic surgeon who found the retina swollen and its vessels contracted. He remained comatose for fourteen months and then recovered consciousness without change in the other symptoms and with complete loss of light perception. Six months later he suddenly recovered sight as the result of prayer.

I. D. Male. Aged 64. United States. On June 2, 1896, he received a bruise on the occiput. November 14th he was seen with an ophthalmic surgeon. There was dragging of the feet, coarse intention tremor of the hands, falling in the Rhomberg position, ataxia of the arms, normal deep with absence of the plantar reflexes, contracted visual fields, anemia with swelling of the



fundus, and dilated irresponsive pupils. Three years after he had fully recovered.

A. M. Female. Aged 26. United States. Previous health good. Seen December 3, 1906, with Dr. George R. Westbrook. One week before she suddenly developed numbness and loss of power in the left arm and leg, headache, loss of memory, aphasia, and an emotional condition. Patient laughed at all questions and answers were evasive. Left hemiplegia with rigid extension of the left leg and foot. Left elbow and wrist reflexes normal with absence of left knee and plantar. Left hemianesthesia. Pupils normal with contraction of the left visual field. Both retinae swollen and vessels contracted but most marked on the left. February 1, 1907, she was seen by a neurologist of Manhattan, who on the eye findings pronounced the condition to be one of brain tumor and removed her to a hospital in that borough. Three days after, through the carelessness of a nurse, she fell out of bed and made a sudden and complete recovery, but has since developed other hysterical conditions.

In all these cases the fundus conditions were pronounced to be due to a neuritis. In the first it was considered to be due to the inflammatory conditions from the fracture, in the second to a nephritis of which there was no other evidence, and the last to a cerebral neoplasm, but the history in all three point to a retinal edema.

The ear frequently is a source of complaint in neurasthenia, from sub-

jective sensations of noise, due in many cases to the introspection which causes the patient to recognize the circulation in the internal carotid. In hysteria hyperesthesia of hearing may occur causing the hearing to be abnormally acute; but more commonly there is a loss of the auditory memory in one or both ears causing a loss of both air and bone conduction. It clearly appears then that the diagnosis of these conditions is a delicate problem, and can only be made by a careful and complete examination of not only the local condition but also by a general examination of the patient.

The presence of other hysterical phenomena should put the physician on his guard, but he must not make the fatal error of assuming that because the patient has neurasthenic or hysterical symptoms, that he may not have the same time an organic disease. It will be seen that in all the clinical pictures of these neuroses simulating organic disease, that the picture is defective, as in the polyuria containing albumen we do not find casts as in a true nephritis, or the undisturbed heart action in the pseudo angina pectoris. Thus it appears that repeated and careful examinations will make the diagnosis clear.

## PREVENTIVE AND CONSTRUCTIVE MEDICINE.\*

### WITH SPECIAL REFERENCE TO MEDICAL SCHOOL INSPECTION.

By ALFRED E. SHIPLEY, M.D.

BROOKLYN-NEW YORK.

UNTIL a comparatively recent period, the aim of medicine was principally directed to the cure of disease after it had become manifest. In the education of physicians the greatest consideration was given to the symptomatology, pathology and therapeutics of disease; disease of the individual received more attention than disease of the mass, and very little attention was accorded to sani-

tation, hygiene, and all those subjects which treated of proper methods of living.

The advent of bacteriology was a great factor in broadening our concept of the art and science of medicine. The knowledge that many micro-organisms were instrumental in causing illness, the study of these germs in relation to these conditions, and the methods discovered whereby they might be destroyed or at least their development retarded, were im-

\* Read at the Brooklyn Medical Society, October 15, 1909.



portant steps in the effort to control disease. Physiological chemistry gave us better knowledge of the relation of the tissues of the body to one another and to the outside world. Recent researches have revealed the important part the blood bears to the natural resistance of the body against disease. The values of fresh air, light and sunshine are appreciated more and more, not alone for their effect upon diseases, but indirectly in placing the human organism in a position to resist invasion.

Knowing the causes of some diseases and the methods whereby they may be prevented, the way is opened for preventive medicine.

Realizing the value of proper hygienic factors such as fresh air, sunshine, proper food and exercise in promoting the natural resistance of the body to disease, the field of constructive medicine is before us.

It is not intended to underestimate the value of curative medicine. To aid in the cure of those who are ill is noble work, and the great advances in the methods of affording medical and surgical relief are causes for immense satisfaction. But surely it is better to be able to prevent disease. To keep a fire from starting is better than to extinguish it after a conflagration has developed. Not many years ago, a typhoid epidemic though estimated an unfortunate occurrence, nevertheless was considered a condition that must be endured. To-day the first outbreak of such a character leads at once to an investigation, and its source being learned, measures are immediately instituted to prevent further spread of the infection. By means of immunizing doses of anti-toxin those coming in contact with diphtheria are prevented from contracting it. Vaccination has practically eliminated smallpox from our category of diseases.

But it is for us to do more than prevent disease. We are all familiar with individuals, who are not actually ill, yet lack vitality and good health; they seem to exist rather than to live. If the health and vitality of such people can be improved, life is made to

them richer and happier. Proper feeding of children prevents malnutrition and lays the basis for good health in later life. The early recognition of hypertrophied tonsils and adenoids, followed by proper treatment will improve the health of the child, and incidentally help to prevent disease.

This, then, is the great field before us: The preservation and the improvement, both physical and mental, of the human race. The work has been started, but is only in its infancy. Its importance and its great scope, are realized more and more as time goes on.

The knowledge of proper living will eventually result in less actual illness, and the fields of individual effort in medicine will give way in some degree to public service. The study of all the factors essential to good health and right living is being pursued most earnestly by all classes of individuals and organizations, such as physicians, social workers, economists and engineers. The problems to be solved, of course, are not purely medical, for while it is recognized that the efficiency of workers, the health of the public, is one of the greatest resources of the nation, yet the bearing of disease upon this efficiency must not be overestimated. Tenement crowding, intemperance, vicious employments, immorality, ignorance and other conditions are to be considered. Nevertheless, the medical problems are the predominating ones, and from the ranks of the medical profession should come the leaders in this work.

The principal discussion this evening is on "Medical School Inspection," but mention will be made briefly of some of the subjects that come under the direction of preventive and constructive work.

Hygiene may be classified as personal, semi-public, and public. Personal hygiene deals with conditions of environment such as clothing, dwellings, air and soil; also the subject of nutrition. Semi-public hygiene refers to the use of hospitals, sanatoria, etc., and the development of hygiene in schools, factories and commercial institutions. Public hygiene is of three



kinds, viz.: National, State and Municipal. As yet, the United States as a nation has no separate Department of Public Health. It is greatly to be regretted that our Government has not fully realized before this time the value of conserving the health of the nation, and has not recognized the necessity of combining under one department all the agencies interested in improving the general health. The Public Health and Marine Hospital Service as organized to-day is doing admirable work and cannot be praised too highly. Mere mention of tropical medicine, alone, recalls the vast amount of research and practical work performed by this corps. This work together with the investigation of foods, child labor, inspection of immigrants, all the interests concerned with the health of the nation, now controlled by various departments should be grouped in one department. It is absolutely essential for proper and effective results. This matter has been agitated and earnestly urged by many organizations, medical and otherwise, from all parts of the country within the past few months, and an early reorganization of the departments may be reasonably expected. It is possible that the Department of the Interior will become the Department of Health and Education.

State hygiene covers all those hygienic measures necessary in the administration of the state apart from its municipalities.

To-day every city has its Health Department dealing with sanitary affairs, such as sewage, garbage, air pollution by smoke, transmission of disease, protection of the public from impure supplies of water, milk, and foods in general.

The Department of Health of New York City has its work under two Bureaus, viz.: Sanitary Bureau and Bureau of Vital Statistics. The Sanitary Bureau has the following Divisions: Contagious Diseases, Communicable Diseases, Child Hygiene, Sanitary Inspection, Food Inspection, Laboratories and Hospitals.

The division of contagious diseases supervises the control of diseases such

as small-pox, diphtheria, scarlet fever, measles, and those of a minor character.

The division of communicable diseases cares for diseases such as tuberculosis and typhoid fever.

The division of child hygiene is the most recently organized division, and deals with matters concerning the child from birth to puberty. It, therefore, includes midwife inspection, still-births, foundlings, sick babies, institutions caring for children, medical school inspection and child labor.

### *Medical School Inspection.*

The medical inspection of school children has passed beyond the experimental stage. In the United States the work is of recent origin, in comparison with its development in other countries of the world.

Early in the nineteenth century, investigations along special lines of school work were made in various countries of Europe. Ling in Sweden organized a scientific system of physical training, which in 1813 was adopted by the Government. Medical men in Germany, Sweden and Prussia made a study of school hygiene and wrote articles concerning the educational systems in vogue and their effect upon the health of school children. Probably the first system of modern medical school inspection was started in 1874 at Brussels, Belgium, when physicians were appointed to visit schools three times a month. In Germany a beginning was made at Dresden in 1867, but not until 1889 was regular medical inspection established. In 1898 school inspection was made general throughout Germany and provided for an examination of each child entering school and about every third year thereafter, for the inspection of school buildings and surroundings, and for the detection of infectious diseases. In Sweden since 1878 examination of the school children has been made. In various parts of England medical inspection of schools has been in operation for many years past, and in 1908 the work became general in all the public ele-



mentary schools of that country. Japan has had a very thorough system since 1898. Other nations, in which inspection is being carried on, are Argentine Republic, Chili, France, Switzerland, Norway, Hungary, Roumania and Egypt.

In the United States, Boston commenced a system of medical school inspection in 1894, Chicago in 1895, New York in 1897 and Philadelphia in 1898. Four states have passed laws. Connecticut, New Jersey and Vermont require examinations more or less thorough, but in Massachusetts alone is the system at all comprehensive, where it provides for inspection in every city and town. Outside of Massachusetts, about seventy cities in the United States have systems of medical school inspection.

The reasons for inaugurating this work are many. The tendency of modern civilization has been steadily toward the aggregation of the people in towns and cities. One hundred years ago, cities with 8,000 inhabitants and over, constituted about 3 per cent. of the population of the United States; to-day 33 per cent. live in centres of that size. In the older states the urban population is decidedly greater, *e.g.*, New York, 72 per cent.; Massachusetts, 91 per cent.; Ohio, 48 per cent.; Illinois, 54 per cent., and Rhode Island, 95 per cent. This means that a vast number of children are aggregated in the schools, and the possibility for the spread of contagion is very great; therefore, the necessity for careful inspection to prevent the spread of such diseases. But not alone from contagion must we protect the pupils, but also from diseases of a minor infectious character. These include parasitic skin affections, such as pediculosis, scabies, ringworm, favus and impetigo; and infectious eye conditions, like "pink eye" and trachoma.

If by law we are compelled to send our children to school, it is reasonable to expect them to be protected, so far as possible, against infectious disease.

Furthermore, we know now that a large proportion of children are suffering from preventable and remediable conditions. This may be considered by some as a matter for the attention of the physician as an individual, and beyond the province of school jurisdiction. The fact is, however, that these conditions have not been discovered up to the age of entering school, and at that time medical examinations have revealed a surprising amount of defects. For this state of affairs, of course, the medical profession is not to any great degree to blame. It is due rather to the neglect or ignorance of the parents, and by them in most cases, as the result of our present education concerning health matters. People have been taught to seek the aid of the physician only when illness actually occurs. It may be incidentally stated that here is a great field for missionary effort on the part of the medical profession. If physicians would educate the people to seek advice regularly, year after year, for their children as they develop, defects and conditions of ill health would be discovered early and remedied, and the percentage of abnormal conditions found at school age would be greatly reduced. Perhaps the Chinese custom of paying the physician, while a condition of good health is maintained, is not so absurd after all.

Again, an enormous number of children never come under the observation of the private physician, but apply for relief at institutions, such as hospitals and dispensaries, and then only when illness necessitates. Such conditions as malnutrition and defective teeth are neglected entirely.

The value of the school as a place to discover these defects will be realized when it is considered that practically every American child comes under its control and observation for a period of seven or eight years.

It may be argued that since the parents have not attended to the physical condition of their children it is not for us as a community to inter-



fere, but rather to ignore the situation. This, however, we cannot afford to do. The advancement of our Nation is dependent to a great degree upon the conservation of the health of the people, and, as we look upon the children as the great hope of the future, all endeavors to improve their physical condition are important from the standpoint of national self-protection. By compulsory education the efficiency of our Nation is assured; its preservation is also dependent upon the best possible physical development of its citizens. Every child is entitled to the full benefit of education, and, if some physical defect, such as imperfect vision or deafness limits such opportunities, the value of the individual to itself and to the community is greatly diminished.

From an economic view, medical inspection is of value, for by restricting the spread of infectious diseases and improving the physical condition of the pupils the attendance at schools is increased and the children are better fitted to receive the education prepared for them.

Many reasons are advanced to explain the prevalence of these defects. Modern civilization demands less physical effort in the performance of our work. Machinery has to a great extent taken the place of muscular effort, and the beneficial effects resulting from such physical exertion have proportionately diminished.

Overcrowding in cities results in many evils, such as poorly built tenements with improper light and an insufficient supply of fresh air. Too little space is allowed for playgrounds, due to a lack of appreciation of the importance of play in the physical development of the child. The increasing demands of school life, both as to the hours required to be passed in school, and the attention necessary to prepare the daily tasks, give to the children less time to be spent in play.

Poverty, of course, with all its sequences, is responsible to a great extent for the development and aggravation of these defective physical conditions.

The following is a general outline of Medical School Inspection as conducted by the Department of Health of New York City.

The Chief of the Division of Child Hygiene controls the work throughout the entire city. Each Borough is in charge of a Borough Chief who directs his work through supervisors. Each supervisor has under him a corps of inspectors and nurses. An inspector and a nurse are assigned to a group of schools, the number of pupils in each group being from 3,000 to 5,000. The inspector visits each school in his charge each morning and examines all children referred to him as cases of suspected contagious disease, children who have been absent for any unassigned or indefinite cause, pupils returning to school after having been excluded, those referred for diagnosis by the school nurse, or any whom the teachers consider cases of physical defects.

Children are excluded who show signs or symptoms of small-pox, diphtheria, scarlet fever, measles, German measles, chicken-pox, whooping cough, mumps, or pulmonary tuberculosis in an active stage. When they return to school these cases are required to present a certificate from the Division of Contagious Diseases. Mumps and whooping cough, however, are admitted at the discretion of the school inspector.

In each case of sore throat a culture is taken and the pupil excluded. The result of the culture is telephoned to the inspector on the following morning, and if negative, the child is visited at once at its home and told to return to school.

The minor infections such as pediculosis, scabies, ringworm and other skin condition or inflammations of the eyes, which in the judgment of the inspector are a menace to the other children, or where the parents have persistently refused treatment, may be excluded. Pupils afflicted with these conditions, however, are not sent out of school unless absolutely necessary, but are referred to the school nurse, who endeavors to get them under treatment, preferably by their own



family physician, or else by dispensaries, or if these are not obtainable by the school nurse herself. The nurse never treats a case of trachoma. A pupil in whom this condition is discovered is required to present within a reasonable time, evidence of being under treatment. Neglect to present this evidence is followed by exclusion until it is given.

Code numbers are used to indicate the diseases on the records kept in the schools. The affection of any particular child is thus only known to those using the code, and does not become a matter for general information throughout the school.

At the beginning of each term the inspector makes a routine inspection of each class in his schools, the children passing in a line before him in regular order. The eyes and lids, the throat, skin and hair of each pupil are examined. The inspector does not touch the child, but the latter is told to pull down the eyelids, open the mouth, show the hands, and in the case of girls lift up the back hair. Any marked cases of physical defects may also be noted at the time of these inspections, and an examination of these individuals made at an early moment.

A physical examination of each pupil is made for the following conditions: Defective vision, defective hearing, defective nasal breathing, hypertrophied tonsils, tuberculous lymph nodes, pulmonary disease, cardiac disease, nervous conditions such as chorea, orthopedic defects,

malnutrition, defective teeth and defective palate.

New pupils are examined first, and then the lowest grades, proceeding upward in regular order. A record of each examination is kept by the school authorities for their use. The Health Department record is made out by the inspector with the defects if any properly indicated, and sent to headquarters. To the nurse is given a slip upon which are noted the defects, and any suggestions necessary for her guidance in following up the case. The child receives a sealed note to be taken to the parents or guardian, informing them of the condition found and suggesting that the family physician be consulted. The parents are then requested to visit the nurse at the school, and if this is not done, after three days the nurse goes to the home and explains the necessity for treatment.

The case is terminated when evidence is received that the child is under treatment, or if the parents absolutely refuse to consider treatment. Promises to have the conditions attended to are made in many instances and these cases often require many home visits before the child is actually treated. Repeated promises are sometimes found to be a polite way of refusing. If the primary teeth are defective, evidence that mouth hygiene is being practised is sufficient.

323,000 pupils were examined during the school term, September, 1908, to June, 1909, and the defects found were as follows:

Defective vision .....	38,320 pupils, or	11.86%
“ hearing.....	3,470 “	“ 01.08%
“ nasal breathing .....	73,050 “	“ 22.62%
Hypertrophied tonsils .....	86,700 “	“ 26.84%
Tuberculous lymph nodes.....	2,450 “	“ 00.77%
Pulmonary disease.....	1,710 “	“ 00.53%
Cardiac disease.....	2,060 “	“ 00.64%
Chorea .....	1,250 “	“ 00.39%
Orthopedic defects.....	2,080 “	“ 00.65%
Malnutrition .....	11,750 “	“ 03.64%
Defective teeth.....	183,870 “	“ 56.93%
“ palate.....	870 “	“ 00.28%



By a defect is meant a condition that can be remedied or improved by medical, surgical, hygienic or other treatment. A child whose arm has been amputated is, strictly speaking, physically defective, yet is not so classified in an examination of this character. A shortened leg, due to an old tuberculous knee or an infantile paralysis, may not in itself be remedied, but a secondary scoliosis resulting therefrom can be improved by proper exercise. The sight in an eye which is blind cannot be restored, but care should be given the other member to insure good vision, and to have as little eyestrain as possible. A leaky heart valve may not be restored to normal, but instruction as to hygiene and careful living can be given to the affected individual.

While social and other conditions in various localities must be considered in estimating the results of the examinations, yet the findings throughout the city are remarkably uniform. It is needless to say that each inspector uses his own medical judgment in his examinations. In the early part of the school year the variation was more marked, due, in some degree, to examinations made by new inspectors not very familiar with the work of school inspection. For experience is necessary to obtain accurate results in the physical examination of school children. There must be a sufficient interest in the work, together with the ability to understand children and their ways. Tact in approaching a child to gain its confidence is essential. A brusque manner is apt to frighten a pupil, and, as a result, the child may read the eye chart imperfectly, not hear well when spoken to, and have a very rapid heart action, all due to nervousness over the examination. The time given to each pupil is of necessity comparatively brief, and calls for good medical judgment, quick decisions, and plenty of common sense. The inspectors of the department are capable physicians, chosen after competitive examination, graduates of the best medical colleges, and many of them ex-internes from our finest hos-

pitals. With these qualifications, together with the necessary amount of school experience, the examinations of the inspectors can be regarded as fairly accurate. In most instances, the presence of these defects is confirmed by the physicians to whom these children go for advice. In a certain proportion of cases there is a legitimate difference of opinion. Such pupils are re-examined by the Supervisor, the result of his findings recorded, and the cases closed. In others, even though the defects are those which any competent practitioner would at once recognize, the pupils submit notes from their family physicians, stating they are perfectly normal. This is sometimes done at the request of parents who know they are required to present a certificate to the school doctor, yet are not willing to have any treatment, and induce their physicians to make such statements. A few doctors deliberately refuse to recognize the defects that exist, and lastly, the knowledge of a small number of practitioners apparently is so meagre that defects are not readily recognized. Comment upon these worthy representatives of our profession is not necessary.

Naturally, problems arise as the work progresses. A recent order of the Department of Health requires the exclusion of all pupils affected with pulmonary tuberculosis in an active stage. It may be many months before they are permitted to return to school. In many cases study may not be detrimental to them physically, and we should not deprive them of all education during their exclusion period, but should institute open-air schools for them. Boston has had such schools for many months, and New York City has recently taken up the work. Open-air schools should not merely provide for these actually ill, but also for children who are poorly nourished and physically weak.

To be effective, medical inspection must be followed by adequate treatment. In New York City the proportion of children requiring, but not receiving attention, is very large.



Hogarth, of London, considers that a very small percentage of the children examined in the schools of that city are properly treated or materially benefited, and thinks this to be due to: (1) The ignorance, apathy and neglect of parents; (2) the inadequacy and inaccessibility of existing institutions; (3) the real poverty of the people and their inability to pay for efficient treatment; (4) the tedious nature of the treatment required for the chronic cases; (5) the general standing of the practitioners in poor districts. All these factors, undoubtedly apply to a greater or less degree to New York City. Many of the children examined in our schools did not receive attention because the parents were unable to pay for treatment, or institutions were at great distances from their homes. This was true especially of defective teeth cases. Others, after being examined for vision and obtaining prescriptions for glasses were unable to pay for them even though the cost was made as low as possible.

Hogarth advocates for England the establishment of school clinics modelled partly on the lines of the Special Clinics established at Strasburg, Dresden, and many other German towns for the treatment of teeth, and partly on the lines of the general school polyclinics which have been established in Switzerland, at Lucerne and La Chaux-de-fonds. These latter exist chiefly as consulting rooms for the school doctor and only secondarily for the treatment of a few parasitic and minor affections.

Difficult cases with which to deal are those where the parents refuse to remedy marked physical defects, which, if neglected, may seriously impair the health of the child. The power of quarantine can be enforced for infectious diseases, but up to the

present time, parents cannot be compelled to have remedied physical defective conditions of their children that demand treatment. Yet it does not seem right that the child should suffer for the ignorance or wilfulness of its parents, or that possibly in later years the community should have burdened upon it an invalid to support.

That medical school inspection will broaden in its scope is unquestionable. It is logical to include in a complete examination the nervous and mental condition of the pupil. Children of the so-called "nervous type" should be carefully observed and their studies adapted to their general condition. Special attention and special needs are demanded for abnormal children, such as the mentally and physically defective, the dull and backward, those who are poorly nourished, and those who are blind or deaf. There are also questions as to the proper relations of our present educational systems to the general health of the children, and not merely talks on the evils of alcohol and tobacco should be given in the schools, but rather instruction along the lines of general hygiene, educating the children how to live and how to conserve physical and mental power.

We are at last awakening to the fact, well known to ancient Greece, that education is not only a matter of mind culture, but of physical education as well. A sound body is of great importance in the development of a sound active mind. If the children with their education, have the knowledge of proper living, it insures to them lives that will be fuller and richer and happier, and guarantees to the nation better citizens for the future.



## LONG ISLAND MEDICAL JOURNAL

**A Forum for the Discussion of all Topics involving the Medical Profession and especially that of Long Island.**

EDITOR-IN-CHIEF

**PAUL MONROE PILCHER, A.M., M.D.**

ASSOCIATE EDITOR

**JAMES MCFARLANE WINFIELD, M.D.**

EDITORIAL OFFICE :

**386 GRAND AVENUE, BROOKLYN, N. Y.**

**Further Information on advertising page 3**

DECEMBER, 1909.

### THE PHILADELPHIA COLLEGE OF PHYSICIANS.

ON November 10, 1909, the College of Physicians of Philadelphia dedicated their new building. This society is a very dignified and venerable medical body, and the manner in which the guests were greeted and entertained, and the dignity and interest of the dedicatory ceremonies well befitted a society founded in the 18th century, that has had on its roster the names of Morgan, Shippen, Rush, Rodman, Pepper, Gross and Meigs.

The society desired to make the opening of its new building an international medical event, and, therefore, invitations were sent to representative medical and public libraries, medical organizations and prominent medical, literary and public men of this and other countries, to participate in this crowning event of its long and useful career.

The candidates for associate fellowships, invited guests and delegates, were first entertained at luncheon at the Rittenhouse Apartments; after luncheon, they, with the fellows assembled at the First Unitarian Church, opposite the

new building, marching from there to the new hall of the College on Twenty-second Street, between Chestnut and Market Streets.

The officers, senior fellows, delegates and invited guests were all clad in academic gowns varying in color from the crimson of Oxford, the scarlet and olive of Magill and blue of Yale to the more somber black and green of the doctor of medicine.

At the entrance of the new hall the keys of the building were turned over to the vice-president, Dr. George E. de Schweinitz, by Dr. William J. Taylor, secretary of the building committee.

After this ceremony all filed in to the Wier Mitchell Hall, for the dedication ceremony. The hall was filled to its full seating capacity. Conspicuous in the audience was Mrs. Anna Weightman Penfield, who donated \$50,000 toward the erection of the new building, and, on the platform, among the distinguished speakers was Andrew Carnegie, Esq., who helped to make this day possible by his gift of \$100,000.

The ceremonies were opened by the president, Dr. James Tyson, who introduced Dr. John S. Billings, representing the New York Public Library. Dr. Charles L. Dana spoke for the New York Academy of Medicine, Dr. William S. Thayer spoke for the Medical Chirurgical Faculty of Maryland, Dr. Reginald H. Fitts spoke for the Boston Medical Library.

Dr. Frederick P. Henry, Honorary Librarian of the College of Physicians of Philadelphia, delivered an historical address.

After this, the Degree of Associate Fellow was conferred upon



seven candidates, each of whom was presented by a member of the college, in a brief address outlining the special service that had won this distinction; they were Dr. Archibald B. Macallum, Physiologist of Toronto, Can.; Dr. Oliver F. Wadsworth, Professor of Ophthalmology, Harvard; Dr. Edward G. Janeway, Physician of New York; Dr. Charles L. Dana, Neurologist, of New York; Dr. Frank Billings, Physician, of Chicago; Dr. George W. Crile, Surgeon of Cleveland, and Dr. Franklin P. Mall, Anatomist, of Baltimore.

After the conferring of the Degrees the president of the college, Dr. James Tyson, delivered his address.

In the evening the members and guests of the college, including many State officials, participated in an elaborate banquet given in the ball room of the Bellevue-Stratford Hotel; about 500 were present, and the galleries were filled with beautifully gowned women as spectators.

Dr. George E. de Schweinitz, who acted as toastmaster, added much to the enjoyment of the after dinner addresses by his eloquent and inspiring introduction of each speaker.

Dr. S. Wier Mitchell responded to the toast, "The Old College and the New"; Mr. Andrew Carnegie to "Libraries and Their Foundations"; Dr. W. W. Keen to "The College Library and Its Treasures"; the Hon. Hampton L. Carson, Attorney General of the State, to "The College and its Civic Relations"; Dr. A. V. Meigs, "The College and Its Traditions."

The new building of the College is, perhaps, the most complete of its kind of any building in the world; it is of English Georgian type of

architecture, with a frontage of 110 feet, extending back 130 feet; it is two stories high in front and six in the rear.

The broad vestibule opens into a circular marble hall, on either side of which are the offices of the directory for nurses, the Librarian and his assistants, the room containing the Gross Memorial Library, a dressing room, and two public auditoriums, each accommodating 150 to 200.

To the rear of the building, under the stacks, is the famous anatomical museum of the College.

Occupying the whole front of the second story is the main auditorium, with a seating capacity of about 800; this is called the Wier Mitchell Hall. On either side of the second story and back of the Wier Mitchell Hall are the reading rooms, one for periodicals, called the Norris room, and the other, opposite, the Ashhurst room, which connects directly with the stacks.

In the sixth story extension is the fireproof stack room, which now contains about 100,000 volumes, but has ample room for 300,000.

The rise and progress of the College of the Physicians of Philadelphia is one of the most interesting bits of the medical history of this country, and it illustrates the fact that a medical organization flourishes much more rapidly if the object for its existence is other than the mere reading and discussing of papers.

In Philadelphia the physician has received the highest recognition, and in that city the term physician and surgeon has always stood for scholar and gentleman; therefore, the College of Physicians, organized



in this spirit has always taken an active part in all matters pertaining to the betterment of the City, State, Nation and all mankind.

From its inception the College realized that a library was necessary for its continued vitality, and, as a result of this, it owns one of the most valuable libraries in the world; not in point of numbers, for it has only about 100,000 volumes, for the officers and directors have always striven to get quality rather than quantity.

The history of this organization should serve as a useful lesson to the Associated Physicians of Long Island, for, like the College, it is free and independent of any control by a superior medical body.

Up to the present time, with our limited facilities, we have done all in our power to stimulate medical research and to further the advancement of all humanitarian movements. The example of the Philadelphia College should stimulate the Associated Physicians to put forth every effort to build up that important feature of medical organizations, the medical library.

The time will come when Kings, Queens and Nassau Counties will all be included in greater New York, and the increased facilities for transit will bring most of Suffolk County in quick and easy touch with the city.

Is it too Utopian to prophesy that some day all of the medical libraries on Long Island will be owned and

controlled by the Associated Physicians; and a hundred years from now might it not wield the great influence that is now possessed by the College of Physicians of Philadelphia.

JAMES M. WINFIELD.

---

### THE ANNALS OF SURGERY COMPLETES ITS 50TH VOLUME.

THE December number of *The Annals of Surgery*, which completes the 50th volume of that Journal, is worthy of more than passing notice. It is a jubilee number, and by its size and the character of its contents fitly marks so important an event in its history. The cosmopolitan character of the journal is seen from the list of contributors which comprise the leaders in surgery of England, Scotland, Denmark, France, Italy, Hawaii, Canada and the United States.

Twenty-two articles form a number of more than 400 pages. The illustrations, some of which are colored, are profuse, making a volume which merits the term of a jubilee number. Such an event in the history of any medical journal is worthy of note. This particular event is of more than ordinary interest to the profession of Brooklyn, since from the first number of the first volume to this last issue of its 50th volume it has been under the continuous editorial direction of one of Brooklyn's surgeons.



## MEDICAL NEWS.

*Edited by* JAMES M. WINFIELD, M.D.

**Long Island College Hospital—**The college has the largest class this year in the history of the institution. The 1913 class consisting of 122 matriculants.

**Sloane Maternity—**Columbia University has received from Mr. William D. Sloane a gift of \$150,000, to be used for the erection of a seven-story addition to the hospital on Tenth Avenue, at Fifty-ninth Street. It will be occupied by the department of gynecology. The new hospital will give the Medical Department of Columbia University the most complete equipment of the kind in the country, and will enable students to receive practical instruction in all phases of the subjects of obstetrics and gynecology in the same building, which has long been the desire of the faculty.

**The German Hospital of Brooklyn** has opened an outdoor department in general medicine and surgery.

**Italian Hospital in Brooklyn—**That an institution for the care of the sick Italians should be erected in this borough with the money now used for building statues and holding street parades, is the sentiment prevailing among the more prominent Italian residents of this borough, and the matter has been agitated in the various Italian societies for some time past.

Plans are now being considered for the holding of meetings for the purpose of agitating the question and collecting funds.

**The Flushing Hospital—**The annual commencement exercises of the Flushing Hospital Training School for Nurses were held last evening in the assembly hall of the new Nurses' Home, and an interesting programme was rendered. Ex-County Judge Harrison S. Moore, the former President of the Board of Trustees of the hospital, presented the

diplomas and administered the Hippocratic oath.

Dr. Joseph L. Hicks made a complimentary address to the class. The graduates were: Miss Madeline Sharp, Miss Anna P. Terry and Mrs. Lulu F. Dayton, of Manhattan, and Miss G. Etta Stailing, of Connecticut. Mrs. Dayton was the valedictorian of the class.

The musical programme was arranged by D. A. Gourlay.

**Southampton Hospital—**The project for the incorporation of the Southampton Hospital met with unexpected opposition at a hearing before the Commissioners sent from Albany to ascertain whether there were any objections to granting a charter to the institution. The opposition came from representatives of other nearby hospitals who made a strong effort to prevent the granting of the charter.

The managers of the Southampton Hospital decided early in the fall that incorporation was desirable and applied for a charter. The work done by the institution since its establishment, a year before, had abundantly proved its usefulness and there were many reasons, including the ability to receive bequests, why incorporation was necessary.

**New Building for Brooklyn Board of Health Dedicated—**The corner stone of the new five-story marble office building of the Brooklyn Board of Health, which is almost ready for occupancy, was laid on November 4th and the building dedicated with suitable ceremonies. The corner stone was laid by Mayor McClellan, and addresses were delivered by Dr. Thomas Darlington, commissioner of Health of New York, and Dr. Joshua Van Cott, president of the Medical Society of the County of Kings. The new building, which occupies the triangle bounded by Flatbush Avenue, Wil-



loughby Street, and Fleet Street, is of white marble. It is an elaborate and imposing structure, and will cost the city approximately \$350,000. It will be ready for occupancy about January 1st.

**City Fights Disease**—More than a quarter of a million dollars will be spent by the City of New York next year in a systematic attempt to control and check the spread of tuberculosis in the metropolis. The money for the campaign was appropriated by the Board of Estimate and Apportionment in the budget for 1910, and is divided among three city departments which will co-operate in the work.

According to the figures the Health Department will get \$250,000, the Board of Education \$6,500, and Bellevue and Allied Hospitals \$17,000.

The Board of Education will spend the money received in an experiment on open air class rooms. Six schools will be selected in the congested sections of the city, and in these buildings twenty class rooms will be converted into open-air apartments. The chief alteration will consist of enlarging the windows and placing the children's desks several feet further apart than the present method of spacing allows. In these class rooms will be placed, all children of the school, who are proved by medical examination to be predisposed to tuberculosis. Care will be exercised to prevent any child afflicted with the disease from entering the rooms, so that contagion or infection will be impossible.

The open-air class room idea has already been tried in Boston with satisfactory results. Statistics secured from the Health Department show that the progress made against tuberculosis since the Civil War is far less than against any other contagious or infectious disease.

**January Meeting**—The Annual Meeting of the Associated Physicians will be held January 10, 1910. Major-

General Leonard Wood, Commander Department of the East, honorary member of the Association will be the guest at the dinner.

**Pellagra**—A special commission of scientists was appointed on November 4th by the Secretary of the Treasury to make an examination into the causes of pellagra and report on official action necessary to arrest the progress of the disease. The members of the board will visit those States where the disease is prevalent, and co-operate with boards of health and other medical organizations in devising ways and means for preventing the further spread of pellagra. The commission is composed of the following members: Passed Assistant Surgeon John S. Anderson, director of the Hygienic Laboratory, chairman; Surgeon M. J. Rosenau, of the Public Health and Marine Hospital Service; Dr. Reid Hunt, chief of the division of pharmacology, Hygienic Laboratory; Passed Assistant Surgeon Charles H. Lavinder, secretary of the commission; Dr. William A. White, superintendent of the Government Hospital for the Insane; Dr. Nicholas Achuccaro, specialist in nervous pathology, Government Hospital for the Insane, and Passed Assistant Surgeon J. D. Long.

**The Alvarenga Prize of the College of Physicians of Philadelphia**—Announcement is made that the next award of this prize, which consists of the income for one year of the bequest of the late Señor Alvarenga, and amounting to about \$180, will be made on July 14, 1910, provided an essay worthy of the prize shall have been received. Essays intended for competition may be upon any subject in medicine, but cannot have been published. They must be typewritten, and must be in the hands of the secretary of the college on or before May 1, 1910. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having



on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned upon application within three months after the award. Dr. Thomas R. Neilson, 122 South Seventeenth Street, Philadelphia, is secretary of the committee.

**New York and New England Association of Railway Surgeons** held its nineteenth annual meeting at the Academy of Medicine, New York City, on November 16-17, 1909. A symposium will be presented on the "Causes of Railway Accidents Individualized." The names of prominent lay officials, attorneys, and surgeons from railways all over the country appear on the program. The officers of the association are: President J. M. Wainwright, Scranton, Pa.; Corresponding Secretary, George Chaffee, 338 47th Street, Brooklyn, N. Y.

**Medical Society of the State of New York**—The following proposed amendments to the Constitution and By-Laws were submitted at the annual meeting held in Albany, January 25, 1909.

Amend the Constitution, Article VI, Section 1. The section to read:

Section 1. The annual meeting of the Society shall be held beginning on the last Tuesday of September of each year.

Section 2. The time and place of the annual meeting shall be designated by the House of Delegates.

Section 2 to become Section 3.

Section 3 to become Section 4.

Amend the By-Laws, Article VI, Section 1. Strike out in full the whole section and substitute:

Section 1. The time and place of each annual meeting shall be fixed by the House of Delegates at the preceding annual meeting.

Chapter IV, Section 2. Strike out "the office of Secretary or Treasurer," and substitute any elective position not provided for in the by-laws.

Chapter VI, Section 2. Add "and the other vice-presidents advanced in order."

**The Medical Society of the State of New York** will hold its next annual meeting on Tuesday, Wednesday and Thursday, January 25th, 26th, and 27th, at Albany, N. Y.

Application for places on the program may be made to Dr. L. H. Neuman, 194 State Street, Albany, N. Y.

**State Board Election**—At the annual meeting of the State Board of Medical Examiners held in Albany, October 30th, Dr. William Warren Potter, Buffalo, was re-elected president, and Dr. William S. Searle, Brooklyn, vice-president. Topics for the coming year were assigned as follows: Anatomy, Dr. William S. Ely, Rochester; physiology, hygiene and sanitation, Dr. William H. Park, New York; chemistry, Dr. Floyd S. Farnsworth, Plattsburg; surgery, Dr. Willis G. MacDonald, Albany; obstetrics and gynecology, Dr. William Warren Potter, Buffalo; pathology, Dr. Lee H. Smith, Buffalo; bacteriology, Dr. Frank W. Adriance, Elmira, and diagnosis, Dr. William S. Searle, Brooklyn.

**New Building for Physicians**—The old University club building on Hanson Place has given place to a most dignified building which has been constructed exclusively for the use of the medical profession. It is the first of its kind in this city and the arrangement of offices and conveniences offered, far surpass anything before attempted in this part of the country. The building is now open for inspection.

## PERSONAL.

**Dr. Story Gets Judgment**—There has been filed in the county clerk's office, at Mineola, a judgment for \$793.07, in favor of Dr. Charles B. Story, of Bayside, against Richard W. Smith, executor of the estate of Bloodgood H. Cutter, the Long Island farmer poet, of Little Neck, who died in 1906.



Dr. Story's original claim was for \$500, for medical services rendered the poet on September 25 and 26, 1906, the day preceding the day of his death. Interest and costs brought the total up to \$793.07. The \$500 he claimed for performing an operation on the aged Mr. Cutter was awarded him by Franklin A. Coles, referee, to whom the claim was sent.

**Dr. John J. Lyons**, of 485 Clinton Street, Brooklyn, has been appointed surgeon, with the grade of lieutenant in the Fourteenth Regiment.

Dr. Lyons is a graduate of Long Island College Hospital 1898. At the time of his appointment he was a member of the Naval Reserves. For five years he served as the Chief of the Dermatological Clinic at the Polhemus Memorial Clinic. He is a member of the A. M. A. Medical Society of the State of New York, Kings County Medical Society, The Elks and the Crescent Club.

**Dr. Hugh A. Rodden**, of 9723 Fourth Avenue, Brooklyn, has been appointed surgeon, with the grade of second lieutenant in the Fourteenth Regiment. The doctor is a graduate of Long Island College Hospital, class '01, and a member of the Medical Society of the State of New York and the Kings County Medical Society.

**Dr. Joseph H. Hunt**, of Newton, N. J., the former chairman of the Historical Committee of the Associated Physicians, has returned to the city for the winter and has taken an apartment on Quincy Street, near Bedford Avenue Brooklyn.

**Dr. Paul M. Pilcher** was elected Honorary Member of the N. Y. and N. E. Association of R. R. Surgeons, at the annual meeting held in New York, November 16th.

**Dr. Lewis S. Pilcher**, **Dr. William Browning** and **Dr. James M. Winfield** were the invited guests from Long Island at the dedication ceremonies of the College of Physicians of Philadelphia, November 10th.

**Dr. Julian W. Russell**, of Brooklyn, has joined the "Noble Army of Martyrs" by purchasing a farm of 40 acres. His farm is in Northern Virginia, near Washington.

### CHANGE OF ADDRESS.

**Dr. Henry W. Dangler** has removed to 455 Classon Avenue. Tel., 754 Prospect.

**Dr. James Cole Hancock** announces the removal of his office to 135 Cambridge Place. Tel., 190 Prospect. Dr. Hancock will be at his New York office, No. 2 Rector Street, from one to four on Tuesday, Thursday and Saturday.

**Dr. Frank Harnden** announces change of address to 208 Eighth Avenue.

**Dr. Edgar W. Lawrence** has removed from 99 Saratoga Avenue to 629 Decatur Street. Tel., 2468 Bushwick.

**Dr. Stewart Lewis** announces his change of address from 13 Cambridge Place to Pine Tree Inn, Lakehurst, N. J.

**Dr. William Neuss** has removed from 774 Quincy Street to 73 Bainbridge Street. Tel., 4796 Bedford.

**Dr. Keran O'Brien** announces the removal of his office from 190 State Street to 327 Jamaica Avenue, cor. of Barbey Street.

### MARRIAGES.

**Chester Waterman**, of Central Islip, L. I., to Miss Eleanor Alicia Atkinson, of Yonkers, N. Y., October 6th.

**Caneron Duncan, M.D.**, of Brooklyn, to Miss Rena Buchanan Shore, of Fayetteville, Arkansas, November 17th.

### DEATHS.

**Dr. William G. Terwilliger**, College of Physicians and Surgeons, New York, of 616 Hancock Street, Brooklyn, was instantly killed in a collision between the automobile in which he was riding and a train of the Long Island Railroad, near Long Beach, October 30th; aged, 38.



# TRANSACTIONS

OF THE

## BROOKLYN PATHOLOGICAL SOCIETY

495th Regular Meeting, October 14, 1909.

The President, E. E. CORNWALL, M.D., in the Chair.

### *Executive Session.*

On motion duly seconded and carried the following resolution relative to the death of Dr. Henry C. Keenan was read and adopted:

WHEREAS, through the inscrutable designs of the Omnipotent, death has suddenly removed from the activities of this life Dr. Henry C. Keenan, the treasurer and active member of this society for many years, and

WHEREAS, in the death of Dr. Keenan we have lost a friend whose life was singularly sweet; this society, an enthusiastic scientific worker, and the medical profession in this town an inspiring force, one whose labors gave promise of future results which would redound to the credit of us all:

THEREFORE, be it resolved, that we, the members of the Brooklyn Pathological Society, do sincerely mourn Dr. Keenan's untimely death; that we tender to his sadly stricken family our appreciation of their loss, and be it further

*Resolved*, that these resolutions be spread on our minutes and a copy be sent to his surviving family.

JOHN A. LEE,  
E. J. MORRIS,  
H. G. WEBSTER.

### *Scientific Session.*

#### **TUBERCULOSIS OF THE APPENDIX.**

DR. S. R. BLATTEIS presented a specimen taken from a male patient, born in Russia, 18 years old, a tailor by occupation with a negative family history. He was admitted to the Jewish Hospital in April of this year complaining of severe pain and tenderness in the appendix region and at the operation a suppurative appendix was removed.

Histological examination showed typical lesions of tuberculosis, such as tubercles, giant cells, necrosis; and infiltrating all the walls were the evidences of an acute suppurative exacerbation.

There were no signs of tuberculosis in the lungs on admission; subsequent examination of the sputum showed no tubercle bacilli. The patient, however, did develop three days after the operation a pneumonia on the left side and three days later, another patch of pneumonia on the right side. This took its usual course and terminated by crisis.

#### **STONES IN THE APPENDIX.**

DR. BLATTEIS presented the specimen, giving the following clinical history:

The patient, a male 64 years old, was admitted to the Jewish Hospital in February of this year suffering from severe pain in the right iliac fossa that had begun for the first time three days before. Temperature on admission 100.8, pulse 88, total leucocyte count of 16,400, with a polynuclear of 89 per cent.

The specimen as submitted to the laboratory showed the following:

Irregular mass 7 by 5 cm., lumen 1 cm. at narrowest end, 2.5 cm. at widest portion; walls vary in thickness and the vessels are filled with suppurative thrombi.

The lumen contained five stones, largest weighing 3.5 gms., smallest, .5 gms.; the combined weight being 5 gms. The dimension of the largest stone is 1.5 by 1.5 cm.; each stone shows several facets.

Histological examination: Acute diffuse suppurative and necrotic appendicitis with suppurative infiltration of the meso appendix. The



part forming the crust of the stones consisted of calcium and magnesium salts; the center was composed of amorphous material. Cultures were sterile.

#### FOREIGN BODY IN THE APPENDIX.

DR. BLATTEIS gave the following history of a specimen which he presented:

M. B., female, age 9 years, 3 months. Swallowed a pin, but had no trouble from it. Admitted September 27, 1909. Three days before admission patient experienced some pain in abdomen and vomited a few times. A few hours after the pain became localized in the right iliac region. Bowels moved every day.

On admission the chief complaint was pain in the right iliac fossa and fever, the temperature registering 100.

The following is the report of the laboratory of the specimen removed at operation:

Appendix is 5 cm. in length surrounded by a thick inflammatory mass. About 2 cm. from its cecal attachment there protruded a sharp metal point; upon extracting it, it was found to be the end of a pin, 3.5 cm. long, about 1 mm. thick with the flattened head 2 mm. in diameter. The pin was covered with a blackish deposit. The head of the pin was in the lumen of the appendix extending nearly to the tip.

#### ADENO-CARCINOMA OF THE APPENDIX.

DR. BLATTEIS' last case report was that of a patient, male, aged 30, admitted to the Jewish Hospital September 1st, died September 2d. There is nothing in the previous history until two years ago when he had an attack of cramps and pain in the right side of his abdomen for about eight days, but not severe enough to be put to bed.

Four days before admission he developed pain in his abdomen and the subsequent history was that of the usual suppurative appendix. There was no evidence or history of any malignancy in the body anywhere.

The appendix was rather short with thickened walls and suppurative and necrotic areas scattered here and there. At the extreme tip was a much thickened portion, whitish in color and fibrous in consistency. Histological examination shows an infiltration into the submucosa and muscularis of glandular tissue with a reduplication of the layer of cells lining them. As far as is evident, this can be considered a primary condition of the appendix. The specimen of this case was also shown.

#### LABORATORY DIAGNOSIS OF SYPHILIS.

A paper was read by DRS. F. A. HULST and T. H. DEXTER.

#### *Discussion.*

DR. POTTER said that Dr. Hulst had given a very complete description of the principles and technique of the Wasserman reaction, and he did not think he could add anything to it. There was one point in the doctor's paper, however, that he would like to correct. He understood Dr. Hulst to say that anti-hemolytic rabbit serum would hemolyze sheep's red blood corpuscles if guinea pig complement was added. There is complement already present in the rabbit serum which will hemolyze the sheep's corpuscles without the addition of guinea pig serum. Tschernogubow, one of the investigators, has utilized this fact, and in his modification of the reaction has dispensed with the guinea pig serum. As the complement contained in the anti-hemolytic serum is a variable quantity, however, we do not rely upon it, but destroy it by heating the serum to 55 degrees C. for one-half hour and substitute for it a known quantity of guinea pig serum.

At best the Wasserman reaction is complicated and is utterly impracticable. It requires for its performance a fully equipped biological laboratory. The Noguchi reaction, on the other hand, which is even more delicate than the original



Wasserman test, is much simpler in its performance and also eliminates one source of error by using an anti-human amboceptor in place of Wasserman's anti-sheep hemolytic system.

The reaction appears about three weeks after the initial lesion of lues, although it has appeared as early as one week. A positive reaction disappears under mercurial treatment, but it is the very first symptom to reappear after treatment has been discontinued.

A positive reaction is an absolutely sure indication of syphilis. A negative reaction unfortunately does not prove the absence of the disease as a small percentage of known syphilitics have been known to give a negative result. If, however, a negative result is obtained after three or four trials at intervals of two to three months, it is a pretty sure indication of the absence of syphilis. The value of it is not so much in active syphilis where manifestations of the disease are present, but in cases of doubtful diagnosis and in the para-syphilitic diseases and especially in neurological conditions such as tabes, progressive paralysis, dementia precox, etc. Dr. Hulst spoke of obtaining positive reactions from cases of leprosy. I have examined three cases of leprosy and have obtained negative results in all three.

Dr. Potter said he should like to urge upon the hospitals of Brooklyn the necessity and value of adopting this reaction. It is used in almost

all the New York hospitals and dispensaries. As far as he knew the Polhemus Clinic is the only institution in this borough which uses the reaction as a routine measure. He had been making the Noguchi examinations for that clinic since last spring.

DR. RATHBUN stated that the Wasserman reaction is of tremendous importance and epoch-making in the history of medical progress. He thought it of greater importance and of greater diagnostic value than Schandin's discovery of the spirocheta pallida inasmuch as there is less room for error. The question has recently been reopened as to whether or not the spirocheta really is the specific cause of syphilis; at any rate, granted that it is, it is not always easy to obtain in very specific lesions, particularly of the tertiary variety, nor is it always easy to identify with any degree of certainty. The results of the Wasserman in his cases have always been borne out by the subsequent clinical history both in positive and negative cases. It is of prime importance in the obscure tertiary lesions. It is to be hoped that Noguchi's modifications will eventually furnish us a means of telling our patient positively when he is cured. We have no such means at our disposal now.

A paper was read by Dr. Charles H. Goodrich, entitled "Pathological Variations and Complications of Appendicitis."

---

## TRANSACTIONS OF THE ASSOCIATED PHYSICIANS OF LONG ISLAND

---

The Thirty-Fifth Regular Meeting of the Associated Physicians of Long Island was held at the Clinton School, Rockville Centre, Saturday, October 23, 1909, and notwithstanding the fact that the day was a threatening

one, was attended by fifty members and guests. Upon the arrival of the early afternoon train, from Brooklyn automobiles were in waiting to take all who cared to go for a run over to Long Beach, and it turned out that



everybody wanted to go and that the trip was fully enjoyed and appreciated.

The meeting was called to order at 4.30 by the President, Dr. Frank T. De Lano, and the minutes of the previous meeting were read and approved. The minutes of the meeting of the Board of Directors, held immediately before the regular meeting, were also read and approved. These minutes stated that it was the sense of the Board of Directors that the custom with regard to the scientific sessions of the meetings should not be changed; also that a new contract be entered into with the present manager of the Journal and that the president be appointed a committee to examine and pass upon such contract.

Three new members were elected as follows: Dr. Charles E. Williamson, 841 Willoughby Avenue, Brooklyn, L. I. C. H., 1896; Dr. William Metcalf Stone, 63 Jamaica Avenue, Flushing, N. Y. U., 1897, and Dr. E. Agate Foster, Patchogue, N. Y., Homeopathic, 1890.

Dr. Harris A. Houghton, of Bay-side, presided at the Scientific Session and read the first paper, entitled, "High Caloric Diet in Typhoid Fever," which was discussed by Dr. W. H. Ross, Dr. J. Finley Bell, Dr. W. I. Cocke and Dr. Walter Truslow. The second paper entitled, "Mastoiditis in Scarlet Fever and Measles," was presented by Dr. Henry A. Alderton, of Brooklyn, and was discussed by Dr. J. Finley Bell. The last paper was read by Dr. Roland Hazen, of Brentwood, and was entitled, "Traumatic Affections of the Knee Joint." This paper was discussed by Dr. Walter Truslow.

The dinner after the meeting was served at the Knickerbocker Hotel and was attended by fifty-one members and guests. The dinner was a good one and was followed by

speeches by the two guests of honor, Hon. William H. Connell, of Rockville Centre, and Hon. James D. Bell, of Brooklyn.  
J. C. H.

#### *Discussion on Dr. Alderton's Paper.*

DR. J. FINLEY BELL, of Englewood, N. J., said that the general practitioner and pediatrician were not always at fault when mastoiditis developed in scarlet fever or in measles, or any other infectious disease, because there was not always the sharp rise in the temperature and pain in the ear. In any case of infectious disease, any sharp rise in the temperature should call for a careful examination of the ears; an examination of such a child would not be complete unless the ears were carefully examined. In his experience, the drum membrane should be opened promptly when trouble was there. Otologists did this better than he; oftentimes when Dr. Bell did a paracentesis, the otologist when called in opened it more. Therefore, he thought it was very prudent that the specialist be allowed to promptly open the ear when there was a rise in the temperature or pain in the ear in cases of scarlet fever, measles, or other infectious disease.

DR. H. A. ALDERTON, of Brooklyn, said that the first development of an otitis media was shown by a discharge from the ear. Still they would find on inquiry into the facts that, at some time or other, the patients did complain of pain in the ear. In looking over the charts of the cases in the hospital, it was noted that the patients did have pain in the ear two or three days before the development of the mastoiditis. There were, however, some cases which developed without any pain or rise of temperature. The type of cases he presented was that which generally occurred.



# TRANSACTIONS

## OF THE

### BROOKLYN SURGICAL SOCIETY

*Regular Meeting June 3, 1909.*

The President, C. H. GOODRICH, M.D., in the chair.

#### **HYPERTROPHIED PROSTATE WITH CALCULI.**

DR. C. H. GOODRICH presented a patient 68 years of age, who was admitted to the Methodist Episcopal Hospital six weeks ago, complaining of all the classical symptoms of enlarged prostate with the addition of an unusual amount of pain; a stone was suspected. He had nine ounces of residual urine and total of 14 ounces capacity. Under anesthesia the stones were located, and he proceeded to do a perineal prostatectomy. The method recommended by Young was followed in large measure, and the prostate was removed with comparative ease through one of the lateral openings. The stones were located in the bladder, the wound in the urethra was enlarged and the stones extracted. He made a satisfactory recovery, except he still has considerable incontinence. The removal of the stones through the sphincter vesicæ had probably weakened that muscle. He is wearing a rubber urinal at the present time. The only other means at his disposal was the crushing of the stones, which were recognized to be large, or to make a suprapubic opening, and he felt it was better not to subject the patient to further traumatism. He is otherwise very comfortable.

For the first two weeks he had the lethargy and indifference many of these cases have, and the speaker made a special effort to get him out of bed early and around the ward.

The case was interesting because of the size of the stones and the infrequency with which writers on enlarged prostate speak of the complication of stones. They are present in about 45 per cent. of the cases.

#### **STAB WOUND OF ABDOMEN.**

DR. C. H. GOODRICH, presenting this patient, said he was unfortunate enough four weeks ago to get into a controversy with some of his friends and received five stab wounds, one of the scalp, one in the left subphrenic region, one in the thigh, one in the thenar eminence of one hand and the other in the abdomen. His abdominal wound was apparently most important, for from the wound protruded six inches of small intestine. The speaker proceeded first to do a laparotomy, reduce the knuckle of gut and examine to see if there was a perforated intestine. The condition found was rather curious. The wound had ripped the skin for two and one-half inches; the peritoneum and muscularis of the intestine was wounded for three-fourths of an inch, and there was a wound in the mesentery for one and a half inches. It was easily sutured. The coil of intestine was cleaned with saline solution and the abdominal wound closed. The parietal wound suppurated.

#### **SMALL SOFT CALCULI IN CYSTIC DUCT.**

DR. C. H. GOODRICH stated that this patient, a woman, 32 years old, had borne three children and enjoyed excellent health until seized with this particular illness. She had in three weeks six attacks of violent pain, which she located in the epigastrium. She had no jaundice and none of the ordinary signs of gall stone disease, except that the Murphy sign was particularly prominent and the region of the gall bladder was tender. The attacks had been so severe as to cause fainting in one instance and in another instance to give all the symptoms of



shock. He made a diagnosis of gall stones. When he saw her after an attack the gall bladder was tender and the Murphy sign prominent. He sent her into the hospital and operated on the following day. The gall bladder he found with thickened walls, containing a mass of mucus slightly tinged with bile. In the cystic duct were two calculi. The first one was removed with ease; the second could not be milked into the gall bladder or into the common duct, and an incision was made in the cystic duct and the stone removed through this incision. He sutured the duct and about 24 hours after drainage was free from the gall bladder, and she made an uneventful recovery.

This case was interesting, the speaker said, because of the short duration of the trouble, the great frequency of the attacks and the minute type of stones.

#### **PROLAPSE OF UTERUS, VAGINA, BLADDER AND RECTUM WITH VESICAL CALCULI.**

DR. C. H. GOODRICH said in this case the uterus was slightly retroverted, the bladder came down within an inch of the cervical area and contained 103 calculi, which weighed 128 grams. The procedure adopted was a supravaginal amputation of the cervix and then the taking out of a diamond shaped area from the bladder. When that denudation was complete an incision was made in the middle of this, the stones removed, the bladder irrigated and a permanent catheter introduced. Then the submucosa was sutured, next the muscularis and then the edges of the denuded mucous membrane were brought together. Then the mass was reduced and a typical general repair of the perineal body undertaken with the idea of later opening the abdomen, fastening the uterus to the abdominal wall and bringing it up to the recti muscles.

The patient did excellently for 48 hours and then developed a chronic uremia and died on the fifth day after operation.

The condition of the patient on admission to the hospital was a desperate one. Her pulse was irregular,

her arteries sclerosed, her heart poor and her kidneys were in bad condition. She was kept in the hospital a week before operation, and during that time improved materially. She maintained a satisfactory condition throughout operation; otherwise the operator was ready to stop at any stage of the proceedings after evacuating the bladder.

#### **CONTUSION OF ABDOMEN.**

DR. C. H. GOODRICH presenting a case report, said that this patient was received at 6 P. M. at the Methodist Episcopal Hospital. He had received a blow in the abdomen from a large block of wood, which struck him in the subphrenic region of the left side and caused him to double up with pain, and it caused a moderate syncope, from which he had recovered when the ambulance surgeon arrived. When brought into the hospital his pulse was 88, he was rather pale and evidently suffered a good deal of pain. The speaker felt that the shock was so distinct that it was not wise to open the abdomen at that moment and decided to operate at 8 o'clock. In the meantime the patient had been given morphine, and when the time came for operation he felt so comfortable that he refused to permit it. During the night he developed further abdominal pain, vomiting, dyspnoea, etc., and the following morning was eager for operation. Coeliotomy revealed a rupture of the jejunum  $1\frac{1}{4}$  inches long and generalized peritonitis resulting from large extravasation of feces. Thorough irrigation and drainage and careful suturing of the wounded intestine were fruitless after the delay of 14 hours due to his refusal of operation. He died 48 hours later.

There was no external evidence of grave injury. Operation was at first contemplated on the principal that given a sufficient cause for serious abdominal injury an exploration is advisable.

#### *Abstract of Discussion.*

DR. M. FIGUEIRA said that the specimen presented showed that the prostate was not large, but that the calculi were about  $1\frac{1}{4}$  inches. He thought



stones of that size should not be removed entire through the neck of the bladder in any case. They should rather be crushed or removed suprapubically, and the speaker believed in this case the proper treatment would have been to open the bladder above the pubis and remove the stones that way. This would give the old man a chance to get over his cystitis and give his prostate gland a chance to recover from the congestion. Then it would be time enough to do something for the prostate.

DR. C. H. GOODRICH said that the old man's condition at the time of doing the prostatectomy was such that it did not warrant suprapubic cystotomy. Even if the man had no return of proper control, he would not have felt inclined to remove the stones from the bladder suprapubically.

DR. PAUL PILCHER thought that in the last case reported it would have been better to have attempted less at one time. With so many complications existing, the first step might have been to remove the stones from the bladder. If the patient had recovered from this, and in the presence of so large a prolapse with an old soft atrophied uterus, the Mayo operation would have been favorable. That is a removal of the uterus and suturing the base of the bladder to the stumps of the broad and round ligaments high up in the pelvis. In this way a permanent cure might have been expected.

DR. C. H. GOODRICH said that that method of treatment had occurred to him, but the manner in which the patient took the anesthetic surprised him, and the way she stood the high amputation of the cervix surprised him, and her condition remaining good he decided to do all the work. Her condition was satisfactory for 48 hours after the operation. In the light of what we know now he believed simple drainage of the bladder would have been the proper procedure. He was in favor of using the body of the uterus as an anchor rather than sewing the broad and round ligaments, because he had seen where tre-

mendous herniæ had developed from such an operation. He believed if the body is sutured up firmly we have the best work done that we are able to accomplish for these cases.

#### PERFORATION OF INTESTINE FOLLOWING TRAUMA.

DR. W. L. SIMMONS related the case of a boy brought into the Swedish Hospital, who was struck by the fender of an automobile. The only injury he sustained was that of an inguinal hernia, which he claimed never to have had before. The boy lied. He was struck in the left side of the abdomen by a child's head with whom he had been fighting. He had no increasing temperature and had a good pulse. His abdominal muscles were hard as a board, and in view of that extreme rigidity with a history of a blow on the anterior abdominal wall, it seemed advisable to open the abdomen. The hernial orifice was found to be an old hernial sac.

Another incision was made through the right rectus muscle and a mass of omentum delivered which had not yet become gangrenous but was in bad condition. It was ligated and removed and then a search was made along the small intestine for injury to it. After examining eight feet of small intestine they found a portion where the omentum was adherent to it, and, separating that adherent portion, they found a perforation the size of a lead pencil. It was a beautiful illustration of the protection the omentum affords of getting up to and sealing these openings. The boy had no systematic symptoms of shock even at the time.

The portion of the omentum was ligated and excised, the wound closed with Lembert sutures and the abdominal wound closed. There was no soiling of the peritoneum. He was washed out with saline. The child made an uneventful recovery.

DR. M. FIGUEIRA had seen several cases that illustrated the need of operation in these cases. Sometimes we do not have the symptom of rigidity, he said. He had seen cases in which after a severe blow the patient on examination did not reveal any symp-



toms at all, no rigidity, tenderness or distention and the pulse or temperature did not show anything, and yet that boy had a rupture and died of peritonitis from want of interference. The speaker thought cases in which a severe force had produced contusion of the abdominal wall, though all symptoms are absent, should have an exploratory incision from our experience in these cases.

DR. J. P. WARBASSE thought the rule laid down, that we should operate not so much upon the indications of the symptoms as upon those of the contusing force, to be a very difficult one to follow. A patient comes in the hospital with a history of having sustained some blow to the abdomen, the force of which we have no way of estimating; and he did not see how we could follow the policy Dr. Figueira had advised, of operating on all these cases. The case Dr. Figueira spoke of, in which there were no symptoms at all, surely was a case in which the surgeon would be justified in not operating. If we operate on all cases which give a history of contusion, but present no symptoms, the speaker said, we will be operating on a great many cases needlessly. The more he sees of contusions of the abdomen, the more he thinks they are entitled to exploratory operation, but still he was not inclined to operate unless there are abdominal symptoms, and he had never seen a case of rupture of the intestine which did not give symptoms of some kind. They might be slight, but unless the subjective and objective symptoms were masked by morphine, he thought it is our general experience that we find

some abdominal symptoms. Surely all have had the experience of deferring operation in these cases which we should have operated on; and on the other hand, he did not believe any of us had operated and been sorry that he had. If we operate and do not find an injury to the bowel, the operation has done no great harm. It need not keep the patient in bed longer than ten days. It is better surgery on the whole to have done ten exploratory operations and found no injury than neglect one in which there was an injury. We all know of many cases operated upon in which rupture of the bowel has been found, but few of us know of a single case which has been operated upon and no damage of the viscera discovered which required surgical attention.

A point which impressed him was the extreme danger of contusions in the inguinal region. A very slight contusion, particularly on the left side, is often responsible for rupture of the sigmoid colon; and he had seen several cases in which the contusion was so slight, that it seemed incredible that so slight an injury could rupture the bowel. In these cases the bowel is caught between the contusing force in front and the hard pelvic brim behind, and either because of distention with gas, fecal matter, or for some other mechanical reason, it easily lends itself to rupture.

DR. O. A. GORDON stated that he had seen a number of these abdominal injuries and never saw one without symptoms, and unless the doctor saw the case early he would be inclined to doubt there were no symptoms.

---

### BOOKS RECEIVED.

**A Text-Book of General Bacteriology.** By EDWIN O. JORDAN, Ph.D. W. B. Saunders Company. Philadelphia.

**Principles of Pharmacy.** By HENRY V. ARNY, Ph.G., Ph.D. W. B. Saunders Company. Philadelphia.

**Minor and Operative Surgery.** By HENRY R. WHARTON, M.D. Lea & Febiger. Philadelphia.

**A Hand Book of Medical Diagnosis.** By J. G. WILSON, A.M., M.D. J. B. Lippincott Co. Philadelphia.



## BOOK REVIEWS.

Edited by JAMES M. WINFIELD, M.D.

**Handbook of Diseases of the Rectum.** By LOUIS J. HERSCHMAN, M.D. C. V. Mosby Medical Book and Publishing Company, St. Louis, Mo., 1909.

This new work on proctology is intended for the general practitioner more than for the undergraduate.

It had its inception in the fact that most medical men, especially the older ones, have but a hazy idea about rectal diseases.

The author has attempted to cover the whole field in a small work, how successfully will be known when the next edition appears, and the reviewer feels confident that another edition will be necessary, for there are many ways in which the book could be improved.

The use of such large type and heavy paper does not seem necessary.

The illustrations are excellent and most of them are original; these alone will make the book valuable to those for whom it is intended.

**Obstetrics.** A Manual for Students and Practitioners. By DAVID JAMES EVANS, M.D. Second Edition. Lea & Febiger, Philadelphia and New York.

Although the author has condensed the whole subject of obstetrics into a small volume, he has succeeded in giving all the essentials in this important specialty, and anyone wishing to refresh his memory on the subject, would find all that was necessary in this book.

The work is profusely illustrated with first class engravings, many of them taken from Jewett's well-known work on obstetrics.

**A Treatise on the Principles and Practice of Medicine.** By ARTHUR R. EDWARDS, A.M., M.D. Second Edition. Lea & Febiger, Philadelphia and New York.

The second edition of Edward's

work shows that the work has been thoroughly rewritten and revised. It is a "Second and thoroughly revised edition" and not simply a new impression.

All of the progress in the practice of medicine or any new discovery in the treatment or etiology of disease have been fully and carefully described. Consequently the chapters on cardiac neurosis, and tropical diseases are practically new.

The use of various sera in disease is duly emphasized as well as the importance of the bacteriological findings of the last few years.

The work is written in a style that has made and will continue to make it a useful text book for both students and practitioners.

F.

**A Practical Treatise on Diseases of the Skin.** For the Use of Students and Practitioners. By JAMES NEVINS HYDE, A.M., M.D. Eighth and Revised Edition. Lea & Febiger, Philadelphia and New York.

The eighth edition of Dr. Hyde's splendid work on dermatology is before us, and while it comes as a familiar friend, it has been so amended, enlarged and brought up to date that one is tempted to review the whole work.

The older part of the book shows careful revision and the new chapters are a clear and concise exposition of the subject.

The reviewer would like especially to call attention to the article on "Blastomycetes."

The section devoted to the consideration of "Diseases of the Tropics and Warm Countries Exhibiting Cutaneous Lesions" should be read and studied by every physician practicing in the seaports of the United States: for in this section of less than a hundred pages the author has condensed a vast amount of valuable information.



In this edition the number of illustrations have been increased, some of the illustrations are excellent but many are not equal to those that have appeared in some of the recent works on dermatology; but the failure of the picture to portray a disease is of small consequence in a work where each page is a clear pen picture, painted in words so expressively arranged that any one with the most superficial knowledge of dermatology would at once be able to comprehend and recognize the disease. The binding and general make up of the book is similar to the other editions.

J. M. W.

**The Principles of Bacteriology.** By A. C. ABBOTT, M.D. Eighth Edition. Lea & Febiger, Philadelphia and New York.

The increasing importance of bacteriology is evidenced by the increased size of the present edition over the first. When the work was first published in 1892 it contained 257 pages, the eighth edition has 624 pages. The work has been so often, and favorably reviewed that a comprehensive review would now seem unnecessary.

We would simply note that a great deal of the matter that was incorporated in the older editions has been eliminated because of the rapid development of bacteriological science.

Most of the book has been rewritten and much new matter has been introduced.

The work has always been of value to the students of bacteriology and on account of the changes the eighth edition cannot fail to be of still greater value.

**Protozoology.** By GARY N. CALKINS, Ph.D. Lea & Febiger, Philadelphia and New York.

It is a difficult task for anyone but the trained biologist to review a work upon this subject.

The purpose of the present vol-

ume is to enlighten the medical practitioner upon the protozoa that are the etiological factor of many diseases.

The work is exhaustive although condensed into a comparatively small volume of 350 pages, including index.

It is divided into ten chapters. While the whole volume cannot fail to be of interest to medical men, special attention is called to the last five chapters which treat of the protozoa that influence many diseases, as sleeping sickness and syphilis.

The reviewer prophesies an eager and constant demand for the work.

**A Text-book of Practical Therapeutics, Etc.** By HOBART AMORY HARE, M.D., B.Sc. Thirteenth Edition. Lea & Febiger, Philadelphia and New York.

It would seem useless to review a book that had gone through thirteen editions and that had been translated into the Chinese and Corean languages.

The rapid advance of therapeutics is not alone responsible for the continued demand for new editions of this book; the author is a master in this most difficult, and one might say, most scientific department of medicine.

Many might be able to write a book on the subject, but few would be able to tell the student when and how to use the remedies as well as when not to use them as Doctor Hare does.

The newer remedies, such as atoxyl in syphilis, novaspirin in rheumatism, phenolphthalin in the treatment of constipation are duly noted and emphasized.

Consideration is given to the anti-toxines, as well as the new applications of well known remedies, as for instance, the use of sulphated magnesium for the relief of local pain.

The reviewer can only reiterate what has been said for the other editions: it is a valuable one on important subjects, and should be in the hands of every physician.



# LONG ISLAND MEDICAL JOURNAL

## INDEX TO VOLUME III

1909

### A

- ABBOTT, A. C. Bacteriology, Review of, 484.  
Abdomen, Injuries of, 480.  
Aerogenous, Bacillus, Capsulatus Infection, 74, 324.  
AGER, LOUIS CURTIS. Tuberculosis of the Brain and Its Coverings in Children; Its Pathology and Diagnosis, 128.  
Air Passages, Upper, Relation of Diseases of to Asthma, Cough and Disorders of Digestion, 369; Upper, Treatment of Diseases of the, 18.  
ALDERTON, HENRY A. Mastoiditis in Scarlet Fever and Measles, 441.  
ALLEN, S. BUSBY. Salpingo-Otitis Media, 244.  
ANDERS, JAMES M. Text-book of the Practice of Medicine, 280.  
Anemia, The Secondary, 182.  
Anesthesia, Practical Points in, Review of, 164.  
Anglo-American Medical Association, The, 190.  
Animal Experimentation, Prevention of Abuse in, 25.  
Annals of Surgery, 470.  
Appendicitis in Children, 416.  
Appendix, Tuberculosis of, 475; Stones in, 475; Foreign Body in, 476; Adeno-Carcinoma of, 476.  
Arteriosclerosis, The Pathology and Etiology of, 329; Symptoms and Physical Signs of, 337; Medical Treatment of, 348; The Surgery of, 352.  
Arthritis Deformans, 82.  
ASSOCIATED PHYSICIANS OF LONG ISLAND. October Meeting, 428; Country Home for the, 25; Annual Meeting, 99, 111; June Meeting, 257; By-Laws, 295; Roster, 298; Committees, 310; 34th Stated Meeting, 311; 35th Regular Meeting, 477; New Members Elected in October, 478.

### B

- Bacterial Vaccines in Infections, The Use of, 219.  
Bacteriology. Review of Abbotts' Book, 484.  
BANDLER, S. WYLLIS. Medical Gynecology, 38.  
BATE, R. ALEXANDER. The Secondary Anemias, 182.  
BEACH, RALPH M. Ruptured Uterus, 152.  
BEEBE, S. P. Parathyroids and Tetany, 312.  
BELL, J. FINLEY. Discussion of Paper on Mastoiditis in Measles and Scarlet Fever, 478.  
Bier's Hyperemia Treatment. Discussion of Indications and Clinical, Notes on, 399.  
Bile Passages, Surgery of the, 63.  
Bladder, Tuberculosis of the Kidney and, 107.  
BLAKE, JAMES EDDY. Bacteriological Diagnosis of Diphtheria, 135.  
Blastomycosis. A Report of Two Cases, 423.  
BLATTEIS, SIMON R. Myxo-Carcinoma of Stomach, 106; Early Diagnosis of Pulmonary Tuberculosis, 121; Tuberculosis of Appendix, 475; Stones in the Appendix, 475; Foreign Body in the Appendix, 476; Adeno-Carcinoma of the Appendix, 476.  
Blood Examination in Surgical Diagnosis, 164.  
BOGART, A. H. Strangulated Internal Hernia, 32; Gastric Ulcer, 232; Appendicitis in Children, 416.  
BOGART, J. B. Carcinoma of Sigmoid, 83.  
Bone, Growth of, After Amputation, 434.  
BONNER, ADOLPH. Discussion of Indications and Clinical Notes on the Bier Hyperemia Treatment, 399.  
Brain, Tuberculosis of the, and Its Coverings in Children; Pathology and Diagnosis, 128; Perithelioma of the, 281; Abscess of the, 316.  
BRAISLIN, WILLIAM C. Progress in the Treatment of Diseases of the Upper Air Passages, 18.  
Breast, Carcinoma of, 193.  
BRICKNER, WALTER M. Surgical Suggestions, 164.  
BRINSMADE, W. B. Osteotomy of Femur, 367; Tubercular Osteitis of Humerus, 367; Compound Fracture Into Elbow Joint, 367; Fracture of Anatomical Neck of the Humerus, 367; Compound Comminuted Fracture of Tibia and Fibula, 368; Paper on Some Observations on the Uncommon Fractures and Their Care, 368.  
BRISTOW, A. T. Unilateral Hematogenous Infection of the Kidney, 118; Fragmentation of Spleen from Injury, 162; Carcinoma of Cæcum in a Young Man, 162.  
Brooklyn Gynecological Society Meetings: June, 1908, 35; November, 1908, 69; December, 1908, 113; January, 1909, 156; February, 196; April, 266; May, 400.  
Brooklyn Pathological Society Meetings: June, 1908, 35; October, 1908, 74; November, 1908, 105; December, 1908, 152; January, 1909, 224; February, 261;



- March, 325; April, 361; May, 395; June, 440; Report of Secretary and Treasurer, 440; Election of Officers, 440; October, 1909, 475.
- BROOKLYN Surgical Society Meetings: June, 1908, 30; October, 1908, 77; November, 1908, 118; December, 1908, 159, 193; January, 1909, 230; February, 270; March, 314; April, 366; May, 404, 430; June, 479.
- BROWN, F. E. Compound Depressed Fractures of Skull, 159; Intra-cranial Hemorrhage, 160.
- BRUSH, ARTHUR C. The Visceral Manifestations of the Neuroses, 454.
- BUIST, GEORGE L. Etiology of Uterine Cancer, 141.
- BUTLER, GLENTWORTH R. Medical Treatment of Arteriosclerosis, 348.
- BUTLER, WILLIAM E. Abdominal Tumor Discharging Through Uterus by Way of Fallopian Tube, 364.

## C

- Cæcum, Carcinoma of, in a Young Man, 162.
- CALDWELL, MATTHEW STUART. Memorial to, 392.
- CALKINS, GARY N. Review of His Book on, 484.
- CAMPBELL, W. F. Diaphragmatic Hernia, 315; Abscess of the Brain, 316; Malposition of the Sigmoid Colon, 317; Complete Avulsion of the Scalp, 318.
- Cancer Problem, The, from a Surgical Viewpoint, 275.
- Cervical Vertibræ, Dislocation of the, 227.
- Cesarean Section, Vaginal, for Dystocia, 114; With Unusual Complications, 196.
- CHASE, W. B. Congenital Absence of Internal Organs of Generation in Two Females of One Family, 197; Pseudohermaphroditism, 268; Palliative Treatment of Cancer of the Uterus, —.
- Cholecyst-Enterostomy, 161.
- Choroid, Melanotic Sarcoma of, 30.
- CLARK, RAYMOND. Symptoms and Physical Signs of Arteriosclerosis, 337.
- COAKLEY, CORNELIUS G. Diseases of the Nose and Throat, Review of, 36.
- Constipation, Chronic, in Infants and Children, 247.
- COOK, FREDERICK A. Editorial, 390.
- CORNWALL, EDWARD E. Influenza With Acute Myocarditis, 74; The Rational Treatment of Typhoid Fever, 165; Analytical Report of One Hundred Cases of Typhoid Fever, 228.
- Country Home, A, for the Associated Physicians of Long Island, 25.
- Cystitis, Remarks on, 107.
- Cystoma, Large Multiple, in a Midget, 314.

## D

- DEARBORN, GEORGE V. N. Text-book of Physiology, Review of, 279.
- DELATOUR, H. B. Rupture of Extensor Muscles of Forearm, 32; Abscess of the Liver, 230; Acute Intestinal Obstruction, 231.

- DEXTER, T. H. Laboratory Diagnosis of Syphilis, 476.
- Diarrhea, Summer, 291.
- DICKINSON, ROBERT L., M.D. Some Foreign Notes for 1908, 20.
- Diphtheria, The Bacteriological Diagnosis of, 135.
- Doctors, A Plea for the, 149.
- DOWNEY, JAMES M. Fracture of the Head of the Tibia, 409; Appendicitis With Intestinal Hemorrhage, 410.
- DUDLEY, E. C. Principles and Practice of Gynecology, fifth edition, Review of, 37.
- DUFFIELD, WARREN L. Unusual Case of Intussusception, 265; Perithelioma of the Brain, 281; Resection of the Ulnar Nerve, 395; Osteomyelitis of Femur, 395; Suprapubic Prostatectomy, 396; Carcinoma of Stomach, 407; Two Cases of Intussusception, 408.
- DURHAM, ROGER. Diseases of the Gall Bladder, 434; Foreign Body in the Esophagus, 434.

## E

- Eclampsia, Two Cases of, 252, 265; in a Primipara Cesarean Section, Recovery, 401.
- Ectopic Gestation, Diagnosis and When to Operate, 85; Unique Case of, 115; Treatment of, in its Early Stages, 208.
- Ectopic Pregnancy, 198.
- EDWARDS, ARTHUR R. Review of book on, Practice of Medicine, 483.
- Elbow, Fracture of, 438.
- Elbow Joint, Compound Fracture into, 367.
- Elbow, Sarcoma of, 235.
- Emmanuel Movement, The, 26.
- Epithelioma Associated With the Trichina Spiralis, 325.
- Esophagus, Foreign Body in, 434.
- Esophagus and Pharynx, Foreign Bodies in, 83.
- Ether Day, at the Massachusetts General Hospital, 427.
- Ether Therapy, Some Finer Points of, as Applied in Anesthetics, 179.
- EVANS, DAVID J. Obstetrics, 2d Edition, 483.
- Experimentation, Animal, Prevention of Abuse in, 25.

## F

- FARRAND, LIVINGSTON. The Organized Campaign Against Tuberculosis, 201.
- Femur, Osteotomy of, 367, 395.
- Fever Nursing, Manual of, Review of, 279.
- Fibula and Tibia, Compound Comminuted Fracture of, 368.
- FIGUEIRA, M. Fracture of Patella, 366; Uterine Fibroids, 366.
- FISKE, EDWIN H. Riedel's Lobe of Liver Complicating Gall Stones, 430; Typhoid Perforation, Multiple Operation, 430; Fecal Fistula Due to Fish Bone, 432; Gunshot Wound of Hand and Arm, 432.
- Fistula, Fecal, Due to Fish Bone, 432.
- Foreign Body Removed from the Intestine, 325.
- Foreign Notes for 1908, 20.



- FOWLER, ROYALE H. Multiple Cystic Spleen, 224; Foreign Body Removed From the Intestine, 325; Epithelioma Associated With the Trichina Spiralis, 325; Blastomycosis, A Report of Two Cases, 423.
- FOWLER, RUSSELL S. Resume of the Preliminary Reports of the International Society of Surgery Meeting at Brussels, September 21-28, 1908, 10; Inversion of the Uterus, 32; Surgical Treatment of Internal Hydrocephalus, 186; Carcinoma Due to X-ray Exposure, 261; Spinal Cord Four Years After Exposure, 263; Pancreatic Calculus, 264; Preliminary Report of a Series of Cases of Septic Peritonitis, 361; Thrombosis of the Superior Mesenteric Artery, 409; Chronic Intussusception, 411; Dermoid Cyst of Ovary, 437; Operation for Movable Kidney, 438.
- Fractures, Importance of X-ray in Treatment of, 41; Difficulties in the Reduction of, 270; Uncommon, Paper on Some Observations on the, and Their Care, 368.
- FRENCH, THOMAS R. Observations on the Relation of Diseases of the Upper Air Passages to Asthma, Cough and Disorders of Digestion, 369.
- FRIEND, W. M. Melanotic Sarcoma of Choroid, 30.

## G

- Gall Bladder, Diseases of, 434.
- Gall Stones, With Chronic Pancreatitis, 78.
- Gastric Dilatation, Acute, as a Post-operative Complication, 447.
- Gastric Dilatation, Acute, Paper on, 364.
- Gastric Ulcer, When Shall It be Treated Surgically, 213; Two Cases, 232.
- GEIS, N. P. Thyroid Lesions and the Relations of the Parathyroids in Surgery, 327.
- GILDERSLEEVE, C. P. Infectious Granuloma, 30; Floating Cartilage From Knee Joint, 433; Growth of Bone After Amputation, 434.
- Gonorrhea, Bacteriology of, Discussion of Preliminary Report on, 397.
- GOODRICH, CHARLES H. Post-operative Malarial Fever, 31; Adynamic Intestinal Obstruction, 31; Perineal Prostatectomy, 397; Vesical Calculi, With Prolapse of Entire Bladder, Uterus, Vagina and a Portion of Rectum, 397; Stab Wound of Abdomen, 479; Calculi in Cystic Duct, 479; Contusion of Abdomen, 480.
- GORDON, O. A. Hemorrhage, Sub-Dural, 77.
- GRAY'S ANATOMY, New Edition, 37.
- GREELEY, HORACE. Climate in the Treatment of Pulmonary Tuberculosis, 171.
- Gynecology, Review of Progress in, for 1908, 1; Principles and Practice of, Review of Fifth Edition, 37; Medicinal, Review of, 38.

## H

- HANCOCK, JAMES COLE. Progress in Ophthalmology, 89.
- Hand and Arm, Gunshot Wound of, 432.
- HARE, HOBART A. Review of His Book on Practical Therapeutics, 484.

- Head Injuries, 93.
- Heart, Diseases of the, Review of, 39.
- HEBBARD, HON. ROBERT W. What the City is Doing with the Tuberculosis Problem, 204.
- Hemorrhage Intestinal, Appendicitis with, 410.
- Hemorrhage, Intracranial, 160.
- Hemorrhage, Sub-Dural, 77.
- Heredity, Some Thoughts on, 237.
- Hermaphroditism, Pseudo, 268.
- Hernia, Strangulated Internal, 32; Strangulated, in a Bed-Ridden Patient, 194; Inguinal, Anorchism Complicated with, 272; Ectopic Gestation Complicated with, 273; Strangulated, through Linea Semilunaris, 277; Diaphragmatic, 315; Intra-Abdominal, 323.
- HERSCHMAN, LOUIS J. Handbook of Diseases of the Rectum, 483.
- HOOLE, L. P. A Plea for Simpler Medication, 96.
- HUBBARD, WILLIAM S. Fracture of Elbow, 438.
- HULST, F. A. Laboratory Diagnosis of Syphilis, 476.
- Humerus, Dislocation of the, 320; Fracture of Anatomical Neck of the, 367.
- HUMPSTONE, O. P. Vaginal Cesarean Section for Dystocia, 114; Cesarean Section with Unusual Complication, 196; Two Cases of Eclampsia, 252, 265.
- HUSSEY, A. A. Eclampsia in a Primipara Cesarean Section, Recovery, 401.
- HYDE, JAMES N. Review of His Book on Diseases of the Skin, 483.
- Hydrocephalus, The Surgical Treatment of Internal, 186.
- Hypnotics, Drug Treatment of Nervous Insomnia and a Comparison of the Recent, in, 91.

## I

- Infant Feeding, Calorimetry in, 355.
- Infectious Granuloma, 30.
- Influenza with Acute Myocarditis, 74.
- Internal Organs of Generation, Congenital Absence of, in Two Females of one Family, 197.
- Internal Secretions and the Principles of Medicine, Review of, 279.
- International Society of Surgery, Reports of the, Meeting at Brussels, 1908, 10.
- Intestinal Obstructions, Adynamic, 31; Treated by Intestinal Resection, 118; Treated by Intestinal Irrigation, 161; Acute, 231; Due to Meckel's Diverticulum, 250; Acute, 368.
- Intestine, Foreign Body Removed from the, 325.
- Intestine, Perforation of, 481.
- Intussusception, Unusual Case of, 265; Two Cases of, 407; Chronic, 411.

## J

- JACKSON, GEORGE THOMAS. Handbook of Diseases of the Skin, Review of, 39.
- JENKINS, JAMES, JR. Tuberculosis Work in the Borough of Brooklyn, 206.



JENNINGS, J. E. Pyonephrosis with Stone Impacted in the Ureter, 78; Gall Stones with Chronic Pancreatitis, 78; New Operations for Varicose Veins, 79.

JEWETT, CHARLES. Congenital Vaginal Atresia, 287; Discussion of Paper on End Results in Three Hundred Resected Ovaries, 403.

JUDD, A. M. Pin Worms in Appendix, 114.

## K

KEENAN, HENRY C. Review of Progress in Gynecology for 1908, 1; The Treatment of Ectopic Gestation in its Early Stages, 208; In Memoriam, 258; Portrait and Biographical Sketch of the Late, 259.

KENNEDY, J. C. Fibro-Myomatus Polypus of the Vagina, 80; Partial Excision of Sarcomatous Thyroid, 80.

KERR, LE GRAND. The Diagnosis of Rheumatism in Children, 229; Chronic Constipation in Infants and Children, 247; "Summer Diarrhea," 291; Acute Anterior Poliomyelitis. Is Efficient Treatment of the Onset Possible? 427.

KEVIN, J. R. Carcinoma Penis, 80.

KEYES, EDWARD L. Syphilis, 40.

Kidney, Movable, Operation for, 438.

Kidney, Tuberculosis of the Bladder and, 107; Unilateral Hematogenous Infection of, 118; Rupture of, 270; Rupture of the, 324; Traumatic Rupture of, 326.

Knee Joint, Floating Cartilage from, 433.

## L

Labor, Tumor Obstructing, 196.

LACK, C. E. Foreign Bodies in Pharynx and Esophagus, 83.

Leucocyte Extracts, The Curative Action of, in Infection, 220.

Leukemia. A Symptom not a Disease, Paper, 326.

LINDER, W. Intestinal Obstruction Treated by Intestinal Resection, 118; Intestinal Obstruction Treated by Intestinal Irrigation, 161.

LINTZ, WILLIAM. Tuberculous Mastitis, 286.

Liver, Abscess of the, 230.

LONG, J. H. Nephrolithiasis, 82; Arthritis Deformans, 82; Fracture Scaphoid, 83; Fracture Os Magnum, 83.

LUDLUM, WALTER D. Calorimetry in Infant Feeding, 355.

LUHRSEN, ERNEST F. Drug Treatment of Nervous Insomnia and a Comparison of the Recent Hypnotics in, 91.

## M

MACEVITT, J. C. Acute Gastric Dilatation as a Post-operative Complication, 447; Remarks on the Diagnosis of Ovarian Dermoid Cysts, 23; Paper on Acute Gastric Dilatation, 364.

MACNAUGHTON, GEORGE. The Peritoneum and Lymphatic Nodes of the Abdominal Cavity, 116; Lymph Nodes in Uterine Cancer, 156.

MADDREN, DR. WILLIAM. Death of, 65; Portrait of, 66.

Malarial Fever, Post-operative, 31.

Mastitis, Tuberculous, 286.

Mastoiditis in Measles and Scarlet Fever, 441.

MATHESON. Ectopic Pregnancy, 198.

Maxillary Bone, Malignant Disease of the, 315.

Maxilla, Superior, Sarcoma of, 439.

MCNAMARA, SYLVESTER J. Interpositio Vesico-Vaginalis Uteri, 69; Ovarian Papillomata, 115; Uterus Ruptured During Labor, 115.

Measles, Mastoiditis in, 441.

Medicine. A Treatise on the Principles and Practice of, by A. R. Edwards, 483.

Medicine, General, The Relation of Ophthalmology to, 377.

Medicine, Preventive and Constructive, 460.

Medicine, Progress in, for 1908, 14; Text-book of the Practice of, Review of, 280.

Medical News, January, 27; February, 67; March, 101; April, 150; May, 191; June, 222; July, 260; August, 297; September, 360; October, 393-4; November, 428-29; December, 471.

Medical Inspection in Brooklyn, 358.

Medical Society of the State of New York, Recent Meeting of the, 98; Legislation, 147.

Medical Words Commonly Mispronounced, 359.

Medication, A Plea for Simpler, 96.

MERZBACH, JOS. Paper on Some Peculiar Pneumococcus Infections, 325.

Mesenteric Vessels, Occlusion of, 30, 61.

MILLER, GEORGE I. Strangulated Hernia through Linea Semilunaris, 277; Intra-abdominal Hernia, 323.

MOSHER, B. B. Carcinoma of Breast, 193.

MUNRO, JOHN C. Surgery of the Bile Passages, 63.

MURPHY, J. P. Strangulated Hernia in a Bed-Ridden Patient, 194; Cyst of Urachus, 195.

MURRAY, ARCHIBALD. The Pathology and Etiology of Arteriosclerosis, 329; Discussion of Preliminary Report on the Bacteriology of Gonorrhœa, 397.

Muscle, External Oblique. Absence of, 400.

Muscles of Forearm, Rupture of Extensor, 32.

Myoma, Degeneration of Submucous, 113.

## N

NAPIER, CHAS. DEWITT. The Diagnosis of the Rheumatic Joint, 229.

NEEF, FREDERICK-EMIL. Practical Points in Anesthesia, Review of, 164.

Nephrolithiasis, 82.

Neurectomy, Intracranial, for Tri-Facial Neuralgia, 362.

Neuroses, Visceral Manifestations of, 454.

Nose and Throat, Diseases of the, Review of, 36.

NOTHNAGEL's Encyclopedia, Diseases of the Heart, Review of, 39.

## O

Obstetrics, Review of Evans' book on, 483.

Ophthalmology, Progress in, 89; The Relation of to General Medicine, 377.

Optometrist, The, 191.



- Orthopedic Surgery for Practitioners, Review of, 278.  
 Os Magnum, Fracture, 83.  
 Osteitis, Tubercular, of Humerus, 367.  
 Ovary, Dermoid Cyst of, 437.  
 Ovary, Dermoid Cysts of, Remarks on Diagnosis of, 23; Papillomata, of the, 115; Dermoid Cyst of the, 263.  
 Ovaries, Remote Results of Conservative Surgery on, 382; End Results in Three Hundred Resected, Discussion of Paper on, 403.

## P

- PAFFARD, F. C. Sarcoma of Elbow, 235; Pulmonary Embolism, 235.  
 Pain in left Lower Quadrant of the Abdomen, 76.  
 Pancreatitis, Gall Stones with Chronic, 78; Acute and Chronic, 255; Cured by Medical Measures, Paper on, 361.  
 Pancreatic Calculus, 264.  
 Parathyroids and Tetany, 321; in Surgery, Thyroid Lesions and the Relations of the, 327.  
 PARKER, E. A. Occlusion of Mesenteric Vessels, 30, 61; Bacillus Aerogenous Capsulatus Infection, 74, 324; Rupture of the Kidney, 324; Spasmodic Torticollis, 324.  
 Patella, Fracture of, 366.  
 Penis, Carcinoma, 80.  
 Peritoneum, The, and Lymphatic Nodes of the Abdominal Cavity, 116.  
 Pharynx and Esophagus, Foreign Bodies in, 83.  
 Philadelphia College of Physicians and Surgeons, 468.  
 Physiology, Text-book of, Review of, 279.  
 PILCHER, JAMES TAFT. Significance of Pain in the Left Lower Quadrant of the Abdomen, 76.  
 PILCHER, LEWIS S. Discussion of Paper on Extra-Uterine Pregnancy, 404.  
 PILCHER, PAUL M. Tuberculosis of the Kidney and Bladder, 107; Treatment of Pyelitis of Pregnancy, 253; Paper on Postural Treatment and Renal Lavage on the Pyelitis of Pregnancy, 268; Renal Varix, 288; Surgery of Arteriosclerosis, 352; Discussion of Paper on End Results in Three Hundred Resected Ovaries, 403.  
 Pin Worms in Appendix, 114.  
 Pneumococcus Infection, Paper on Some Peculiar, 325.  
 POLAK, JOHN O. Diagnosis and When to Operate in Ectopic Gestation, 85; Degeneration of Submucous Myoma, 113; Rupture of the Uterus, 113; Unique Case of Ectopic Gestation, 115; Degenerating Myoma of Fundus Uteri, 156; Tumor Obstructing Labor, 196; Case of Cesarean Section, 266; Remote Results of Conservative Surgery on the Ovaries, 382; Hysterectomy for Traumatic Rupture of Uterus, 400.  
 Poliomyelitis, Actue Anterior, Is Efficient Treatment of the Onset Possible? 421.  
 POMEROY, RALPH H. Uterine Adenoma, 105.

- Pregnancy, Extra Uterine, Discussion of by Drs. Westbrook, MacEvitt, Figueira, Simmons, Fowler, Lack, Goodrich and Lewis Pilcher, 404.  
 Pregnancy, Pyelitis of, Treatment of, 253; Ruptured Extra-Uterine, 319.  
 Prostatectomy, 319.  
 Prostatectomy, Perineal, 397.  
 Prostatectomy, Suprabubic, 396.  
 Protozoology, Review of Calkins on, 484.  
 Public Health and Hospital Exhibits, 65.  
 Pulmonary Embolism, 235.  
 Pulmonary Tuberculosis, Early Diagnosis of, 121; Climate in the Treatment of, 171.  
 Pyloric Obstruction, 274.  
 Pyelitis of Pregnancy, Treatment of, 253.  
 Pyonephrosis with Stone Impacted in the Ureter, 78.

## Q

- Quadriceps Extensor Cruris, Ruptured, 320.

## R

- RANKIN, WILLIAM H. Acute Intestinal Obstruction, 368; Extra-Uterine Pregnancy, Discussion of, by Drs. Westbrook, MacEvitt, Figueira, Simmons, Fowler, Lack, Goodrich and Lewis Pilcher, 404.  
 RATHBUN, N. P. Remarks on Cystitis, 107; Discussion of Laboratory Diagnosis of Syphilis, 477.  
 Rectum, Diseases of, Review of Herschman's Book, 483.  
 Rectum, Three Cases of Cancer of the, 235.  
 Renal Lavage in the Pyelitis of Pregnancy, Paper on Postural Treatment and, 268; Varix, 288.  
 Rheumatism in Children, The Diagnosis of, 229.  
 Rheumatic Joint, The Diagnosis of the, 229.  
 Riedel's Lobe of Liver Complicating Gall Stones, 430.  
 ROBERTS, DUDLEY D. Paper on Pancreatitis Cured by Medical Measures, 361.  
 RUSHMORE, JACQUES C. Treatment of Congenital Talipes Equino-Varus, 57.

## S

- SAJOUS, C. E. DE M. Internal Secretions and the Principles of Medicine, Review of, 279.  
 Salpingo-Otitis Media, 244.  
 Scalp, Complete Avulsion of the, 318.  
 Scaphoid, Fracture, 83.  
 Scarlet Fever, Mastoiditis in, 441.  
 SCHAMBERG, JAY FRANK. Diseases of the Skin and the Eruptive Fevers, Review of, 37.  
 School Inspection, Preventive and Constructive Medicine in Relation to, 460.  
 SCOFIELD, CHARLES E. Faucial Tonsils, Hypertrophied and Otherwise, 413.  
 Septic Peritonitis, Preliminary Report of a Series of Cases of, 361.  
 SHIPLEY, ALFRED E. Preventive and Constructive Medicine, 460.  
 Sigmoid, Carcinoma of, 83.  
 Sigmoid Colon, Malposition of the, 317.



SIMMONS, WARREN S. Perforation of Intestine, 481; Head Injuries, 93; Intracranial Neurectomy for Tri-Facial Neuralgia 362.  
 Skin, Diseases of, Review of Hyde's Book, 483.  
 Skin, Diseases of the, and the Eruptive Fevers, Review of, 37; Hand-book of Diseases of the, 39.  
 Skull, Compound Compressed Fracture of, 159.  
 SPENCE, T. B. Epithelioma of the Tongue, 160; Cholecyst-Enterostomy, 161.  
 Spinal Cord Four Years after Section, 263.  
 Spleen, Fragmentation of, from Injury, 162; Multiple Cystic, 224.  
 STICKLE, CHARLES WALDO. Deep Injections of Alcohol in Tic Douloureux, 386.  
 Stomach, Carcinoma of, 407.  
 Stomach, Myxo-Carcinoma of, 106.  
 SULLIVAN, J. D. Anochism Complicated with Inguinal Hernia, 272; Ectopic Gestation Complicated with Hernia, 273.  
 Surgical Anatomy, Applied, Review of, 36; Suggestions, Review of, 164.  
 Syphilis, 40.

## T

Talipes Equino-Varus, Treatment of Congenital, 57.  
 TAYLOR, STEPHEN. Absence of External Oblique Muscle, 400; Pyloric Obstruction, 274; Orthopedic Surgery for Practitioners, Review of, 278; Traumatic Rupture of Kidney, 326.  
 Tendon Suture, 320.  
 TERRY, C. H. Thyroidectomy, 318; Prostatectomy, 319.  
 Testimony, Medical Expert, 100.  
 Tetany, Parathyroids and, 312.  
 Therapeutics, Review of Hare's Book, 484.  
 THOMAS, JEROME B. The Relation of Ophthalmology to General Medicine, 377.  
 Thrombosis of the Superior Mesenteric Artery, 409.  
 Thyroid, Partial Excision of Sarcomatous, 80; Lesions and the Relations of the Parathyroids in Surgery, 327.  
 Thyroidectomy, 318.  
 Tibia, Fracture of the Head of, 409.  
 Tibia and Fibula, Compound Comminuted Fracture of, 368.  
 Tic Douloureux, Deep Injections of Alcohol in, 386.  
 Tonsils, Faucial, Hypertrophied and Otherwise, 413.  
 Tongue, Epithelioma of the, 160.  
 Torticollis, Spasmodic, 324.  
 Trichina Spiralis, Epithelioma Associated with the, 325.  
 Tri-Facial Neuralgia, Intracranial Neurectomy for, 362.  
 Tuberculosis, The Organized Campaign Against, 201; What the City is Doing with the, Problem, 204; In the Borough of Brooklyn, Work, 206.  
 Tumor, Abdominal, Discharging through Uterus by Way of Fallopian Tube, 364.  
 Typhoid Fever, Rational Treatment of, 165; Analytical Report of One Hundred Cases of, 228.  
 Typhoid Perforation, Multiple Operation, 430.

## U

Ulnar Nerve, Resection of, 395.  
 Urachus, Cyst of, 195.  
 Ureter, Pyonephrosis with Stone Impacted in the, 78.  
 Uterine Adenoma, 105; Lymph Nodes in, Cancer, 156.  
 Uterine Fibroids, 366.  
 Uteri, Interpositio Vesico-Vaginalis, 69; Carcinoma of Fundus, 156; Degenerating Myoma of Fundus, 156.  
 Uterus, Inversion of, 32; Rupture of the, 113; Ruptured During Labor, 115; Symposium on Cancer of the, 141; Etiology of Cancer of the, 141; General Consideration of Cancer of the, 143; Radical Abdominal Operation for Cancer of the, 144; Ruptured, 152; Traumatic Rupture of, Hysterectomy, 400.

## V

Vaccination, Is Compulsory, Justifiable? 147.  
 Vagina, Fibro-Myomatus Polypus of the, 80.  
 Vaginal, Congenital, Atresia, 287.  
 Varicose Veins, New Operation for, 79.  
 Vesical Calculi with Prolapse of Entire Bladder, Uterus, Vagina and a Portion of Rectum, 397.  
 Vivisection, Secrecy in Modern, 64.

## W

WARBASSE, JAMES P. Importance of X-ray in Treatment of Fractures, 41; Dislocation of the Cervical Vertibræ, 227; Rupture of Kidney, 270; Difficulties in the Reduction of Fractures, 270.  
 WEBSTER, HENRY GOODWIN. Progress in Medicine for 1908, 14; Paper on Leukemia a Symptom not a Disease, 326.  
 WESTBROOK, RICHARD WARD. When Shall Gastric Ulcer be Treated Surgically? 213; Intestinal Obstruction Due to Meckel's Diverticulum, 250; Cancer Problem, The, from a Surgical Viewpoint, 275.  
 WHITE, WILLIAM A. Some Thoughts on Heredity, 237.  
 WIGHT, J. SHERMAN. Large Multiple Cystoma in a Midget, 314; Malignant Disease of the Superior Maxillary Bone, 315; Sarcoma of Superior Maxilla, 439.  
 WILCOX, REYNOLD WEBB. Manual for Fever Nursing, Review of, 279.  
 WILE, IRA S. Blood Examination in Surgical Diagnosis, Review of, 164.  
 WOOD, W. C. Three Cases of Cancer of the Rectum, 235.  
 WOOLSEY, GEORGE. Applied Surgical Anatomy, Review of, 36.  
 WOOLSEY, WILLIAM C. Some Finer Points of Ether Therapy as Applied in Anesthetics, 179.  
 WUNDERLICH, F. W. Ruptured Extra-Uterine Pregnancy, 319; Tendon Suture, 320; Ruptured Quadriceps Extensor Cruris, 320; Dislocation of the Humerus, 320.

## X

X-Ray, Importance of the, in the Treatment of Fractures, 41; Exposure, Carcinoma due to, 261.

## Z

ZIMMERMAN, V. L. Carcinoma of Fundus Uteri, 156.























